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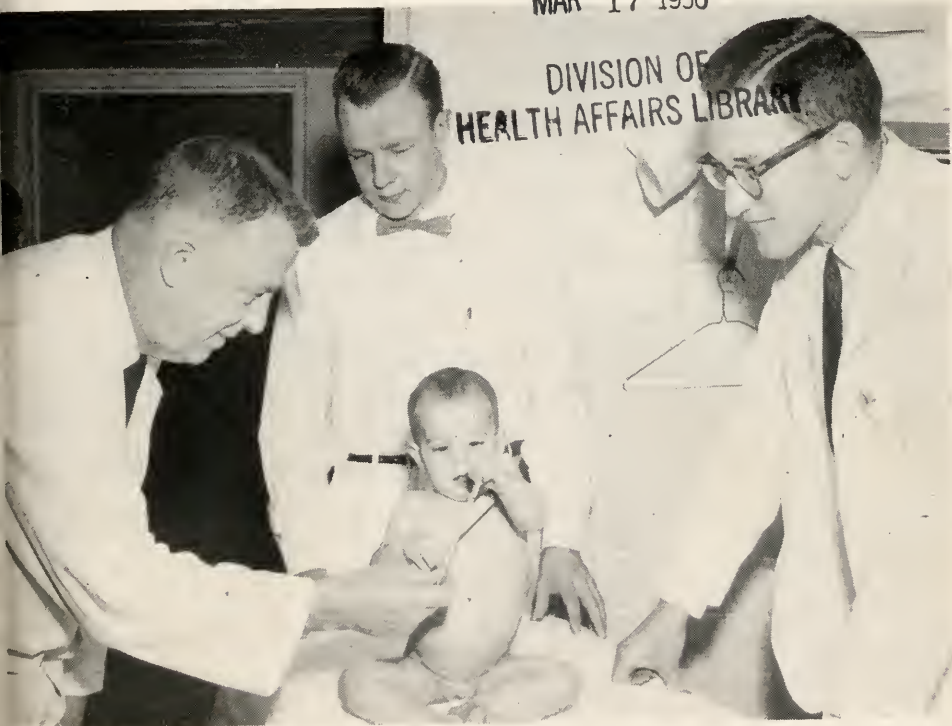
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DR. SIDNEY CHIPMAN, Clinical Professor of Pediatrics, is shown evaluating a well baby with senior medical students ALEX GOLEY and BILL HARRIS.

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The Dean's Page

All Medical Schools Serve

To all of those interested in medical education in the United States the closing months of 1955 brought two highly significant developments. The first was the grant of \$7,150,000 from the Commonwealth Fund of New York to ten privately endowed medical schools in unrestricted funds to improve the quality of education in these institutions. The second was the announcement that the Ford Foundation would give \$90,000,000 to privately supported medical schools. The basis upon which this grant is to be made and the amounts awarded to individual schools have not yet been made public.

To have the financial resources of a very important group of medical schools strengthened by approximately \$100,000,000 in one year's time is truly a remarkable achievement and gives great hope for increasing support of medical education in the future, and for the public recognition that fundamentally the medical schools constitute the foundation upon which the health of the nation depends.

It remains to be seen what the impact of the Foundations' philanthropy to the privately endowed schools may be with respect to future financial support for the State and municipal institutions. It is to be hoped—and presumably this was the intent of the grantors—that Foundation support for the private medical schools would stimulate more adequate financial support from public funds for medical schools dependent upon appropriations from State and municipal governments.

The effect of these grants upon pending legislation in the Congress for Federal aid in construction of teaching and research facilities for all medical schools as well as for increased funds for research will be watched with great interest as a possible indication of what may be anticipated from State Legislatures in the immediate future.

For the publicly supported universities and medical schools there is a disturbing and potentially serious implication in the present trend of many Foundations to support more and more the privately endowed institutions to the exclusion of those which are publicly supported.

It is becoming increasingly difficult to distinguish between medical schools on the basis of the principal source of their financial support. Some schools which are classed as private receive a larger appropriation from the State than some whose sole support is from State appropriations. Others classed as public institutions get most of their income from endowment. Finally, nearly all today receive public funds from Congressional appropriations in support of teaching and research projects.

The public profits from all the medical schools and in the final analysis the public's dollar supports medical education—either indirectly through Foundation grants or directly from Governmental appropriations.

An awareness of this situation is of increasing importance to alumni and friends of the State universities. It is all very well to say "let the State take care of providing adequate support for its own institutions." The State has many obligations to meet and services to provide for its citizens in the educa-

tional, health, and other fields. Its only source of funds to meet these needs is income from taxation. Everybody is familiar with the resistance encountered by a proposal to increase taxes for educational and other services. Not infrequently the greatest resistance comes from industries or interests whose earnings resulting from the sale of products to the public are in turn used to establish foundations devoted to the support of the private educational institutions.

The University of North Carolina has had this experience over and over during the past 50 years, and unless it can have the understanding and active support of its friends and alumni, there is little reason to believe there will be any material change.

The alumni have an additional opportunity to aid the University and the Medical School in their contacts with individuals and industrial concerns in their own communities. There is still much private wealth in this State which can and should be interested in medicine at the University. To accomplish something worth-while along this line should be the goal of every medical school alumnus in 1956.

We must accept the challenge from the Foundation grants to the private schools and see to it that funds from public and private sources come to this University in ever increasing amounts—or accept the fact that the educational contributions from and the future development of State universities will inevitably be crippled.

W. R. BERRYHILL, M.D.

Dean

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The Problem of Financing Medical Education: The Viewpoint of the State-Supported Medical School

By John Truslow, M.D.

Ten years ago 41 per cent of the 69 four-year medical schools were government supported. Five years hence there will probably be at least 80 four-year schools in operation, of which 40 will be sustained chiefly by tax dollars. In that fifteen year period 10 of the 11 medical schools established by expansion or full construction to provide the total undergraduate curriculum are public institutions. Moreover, two others in New York state transferred from private status to government operation two years ago. These are sobering statistics.

The cost of medical education is great. How much more productively and responsibly we shall fare as public funds support more than 50 per cent of medical students in future years, depends upon a well informed but also a prosperous and healthy citizenry.

There is a regional emphasis to this picture. In the states of Virginia, North Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Tennessee and Kentucky there are now twenty medical schools, of which 13, or 65 per cent, are state supported. Seven out of every 10 young M.D.'s in this southern region will have received about 75 per cent of the cost of their education from their respective state governments *through taxation* of their fellow citizens. The predominance of state supported medical education in the south, and this national trend presently underway, represents recognition by private university leaders of financial problems beyond their resources to meet or to anticipate ever meeting.

But let no one imagine that the problems are resolved through friendly discussions with the appropriations committees of the

Dr. Truslow obtained his M.D. at Harvard, served as Assistant Dean of the College of Physicians and Surgeons, Columbia, '46-51, and since 1951 has been Dean of the School of Medicine of the Medical College of Virginia. This address was presented as a part of the Panel on Financing Medical Education on the occasion of the celebration of the 75th Anniversary of Medical Education here at the University in April, 1955.

state legislatures. As all of us know, the quality of health and medical care—medical care in the extensive sense—ultimately depends upon the quality and dynamics of education in the health field. Medical education is the most expensive of all academic programs. This is so for many reasons, but let me focus on a few.

The training of the doctors of tomorrow requires the academic skills, the pedagogic capacities, the human dedications of the best available men and women to serve on the faculties of medicine. We will never in medical education have to compete dollar for dollar against the incomes or salaries such skills can command today in private practice, pharmaceutical houses, or industrial laboratories.

But how can a job be done, as all citizens expect it to be done, when a basic science professor may retire after 31 years at a top salary of \$6,900 and retirement income of \$250 a month for the duration of his life only? This man twenty years ago was receiving \$4,800. If that were extended to the present value of the dollar he should be receiving now about \$12,000 at the same salary rate, so this man has been receiving a reduction in income during the past twenty years. A professor of pathology receives an income after 28 years which is actually two fifths of the salary offered to two of his residents on the completion of three years of training under him. Every year, over the country several hundred able young men and women, disposed and qualified for teaching and research choose to go into practice rather than to accept \$2,400 to \$3,000 a year from college, augmented by \$5,000 from grants, possibly, which are annually submitted by themselves. When a clinical professor, for example, has to spend 75 per cent of his time in private practice to make the difference between his basic salary and an income ceiling which is scarcely one third of that of at least ten of his part-time colleagues in the department.

The first reason, then, for the high cost of medical education is the high cost of qualified personnel, and let me say again, a cost measured against a standard of moderate living, not against the price these skills might command.

Secondly, medical education is involved in medical care, and thirdly, it is involved in medical research. These are expensive in themselves. What intrepid economist or accountant will ever extract one from the other? What percentage of a consultation involving a professor, a patient and a medical student is medical

education, medical care, or investigative interest? Good medical education involves all three. Good medical research involves all three. Good medical care involves all three. The simple fact is that the economics of services have never, and I suppose I hope they never will, be submitted to satisfactory analysis comparable with the economics of commodities.

This describes the very heart of our problem of translating values we sense into terms our legislators must grasp if they are to weigh our stated needs against easily demonstrable and politically picturesque proposals for a north-south throughway, expansion of the state prison, a new gymnasium at the state college, support of agricultural needs, and so on.

Both by accident and by choice I have counted among my friends and acquaintances an unusual number of legislators, both nationally and locally. Although they vary considerably in their estimates of the motives of men who discuss legislative problems with them, I think I have never met one who does not sincerely try to do a responsible job, and who would not like to know how to tell the difference between a constituent who is qualified to inform them and one who has other motives in mind.

Yet even assuming, if you will allow me, the role of a constituent qualified to inform my representative about the legitimate needs of a medical center in terms of service to its state, I find myself in a quandary. I am a tax payer, not a formidable one but none the less aware of the big pieces taken out of my salary for federal and state government taxes. I see the need for vast expansion of elementary education facilities, as acute as the need for greater support of medical education, and I wonder how far we can go.

I do not know the answer, but I profoundly believe this: we dare not allow the wellspring of medical education and research to dry up in this era of advances in medical knowledge such as the world has never known. We dare not forget that the vitality of our nation and its success in the struggle ahead depends upon the health of our people as well as their education. So it would seem reasonable to me to point out to such a representative that the total appropriation of state funds to institutions which are concerned with education in the health field—medicine, dentistry, pharmacy, nursing, including the medical school teaching hospitals in Virginia—is today less than three cents out of the state

(Continued on Page 22)

The Medical School — The Medical Student

By Edward McGowan Hedgpeth, M.D.

Mr. President, Members of the Whitehead Society, and guests: When your president came to me with the message that his committee was extending me an invitation to address you at this meeting, I admit to you I felt highly flattered and pleased. It is indeed a real honor you have bestowed upon me, and I am genuinely grateful for this opportunity. When sufficient time had elapsed for my inflated ego to subside to the point where I could think again, I felt considerably sobered by the responsibility my acceptance of this invitation involved. I want you to know that I am sincerely grateful and appreciative for this opportunity to speak to you.

Especially do I want to greet those of you who are just now becoming members of this Society, for it is to you that my remarks are primarily addressed. I feel that I already know you (and can truthfully say I feel close to you)—for, as you know, I have studied your undergraduate careers somewhat in detail to say the least and have talked personally with almost all of you at one time or another throughout the past year. I want to say to you at the outset that you are welcomed with open arms and with great faith and confidence in your future.

By way of background, a few words concerning the Whitehead Society and how it began may be of interest. So far as I have been able to determine—only part of this can be documented and part has come to me by word of mouth—legend tells the interesting story of the first organization of a student medical society in 1905 by a few members of the student body while sharing the sense of comfort and well-being around a bottle of special brew in the old DKE fraternity house, which stood back of where the Hill Music Hall stands today. This strikes me as a pleasant nostalgic beginning for this organization and may serve as a historical basis for some of the Society's activities throughout the years. Be this as it may, the first recorded fact that I am able to discover—and I am indebted to Miss Dorothy Long of the Library

This address, the annual Whitehead Lecture, was given by Dr. Hedgpeth on Sept. 13, 1955. Dr. Hedgpeth is chairman of the Committee on Admissions, University Physician and clinical associate professor of Medicine at the University of North Carolina School of Medicine.

staff for her help and diligent research for this information—was that in the Tar Heel of January 16, 1908, there appeared a news article which stated a medical society was organized at the University of North Carolina. From this account it would appear that the actual date of organization was January 9, 1908. The purpose of the Society was "to train the student to do some work along original lines and then to be able to report his results in an intelligent and comprehensible manner." Students qualified for membership by scholarship only. No mention is made of what degree of scholarship was required for membership, but apparently the officers were elected from the twelve top men in the first-year class at the end of the first year. Some semblance of this pattern was followed for a good many years, I believe, but more recently the organizational pattern was broadened to include the entire student body and even more recently the officers came to be elected not by scholarship alone but by popular vote of the entire membership. Mr. E. H. Kloman, an instructor, was active in the original organization and became the Society's first president. Dr. I. H. Manning, then the Dean of the School, was Honorary President; J. C. Wiggins was Vice-President; J. M. Davis, Treasurer; and A. C. McCall, Secretary.

I cannot be certain when the name of the Society was changed to the Whitehead Society, but I should fancy that it occurred early in the life of the organization; and no doubt Dr. Manning had considerable influence in the naming of the Society for the School's first dean, Dr. Richard Whitehead, whom Dr. Manning had succeeded.

It is important, I think, that so early in the history of this school the students, with faculty aid and encouragement, should form an organization dedicated to stimulating in the student an inquisitive spirit and placing emphasis on scholarly work. I am sure in my own mind as I have watched this group function over a good many years that it has exercised a very wholesome and stimulating influence on the lives of many students. It is in such an organization that you now hold membership, and if you contribute to its aims and objectives it will in time mean much to you and from it you will gain much.

I would like for you to think with me for a few moments tonight along the general line of what the School of Medicine may expect of you and, in turn, what you might expect from the School which has chosen you and in which you have elected to prepare yourself for your life's work.

First of all, if the committee which has selected you from some 265 applicants to make up this entering class has faithfully and conscientiously performed its function, the Administration and Faculty of this School can assume from the outset, as a foundation upon which to start, that you are individually and collectively young men and women who possess unquestioned integrity and character and that you have the ability to make the best use of the opportunities which the School has to offer. Furthermore, you may be expected to have had such undergraduate training and course of study as to prepare you adequately for a career in Medicine; also, and probably most important, you can be expected to be well motivated in your desires to become a physician. Educators today have come to realize that motivation plays a tremendous part in the learning process. It should be considered in the same terms and given probably equal value with intellectual capacity, emotional stability, and educational background. I have often said that I did not know all the attributes necessary to make a good medical student; but there is one thing I am confident of, and that is it requires more than the average amount of at least one or more of such qualities as desire, determination, ability to apply oneself to a given task or problem, intellect, and undergraduate preparation—in about that order. Occasionally one finds these and other good qualities in goodly proportion in the same individual, but these people are rare. Each of you has been evaluated as carefully as we know how to estimate those characteristics and qualifications which we feel are necessary for a successful medical career.

The School, it seems to me, has every right to approach you as individuals who are mentally and emotionally capable of growth and development. This experience of actually beginning your duties in Medical School *per se* represents to you, I am sure, an occasion long anticipated and long to be remembered; but let us not think of it as the end of one milestone and the beginning of another between which there is no connection—rather let us think of it as another step in your educational path of growth and development, more specifically designed to help you achieve special knowledge and skills and a *modus operandi* of your intellectual and spiritual talents.

Medical science is certainly a dynamic field. Those hypotheses we held yesterday must today, in the light of newer knowledge, be discarded or modified in our daily application of our knowledge to the welfare of human society. We must be ever

critical, always maintaining an open mind and never willing to accept fact for truth. We can assume, it seems to me, that each of you possesses that certain something in your heart and soul that will prevent you from ever becoming complacent and self-satisfied—that you will come to realize in your experiences and contacts here that education is a constant and continuous process and, in short, we are all and always will be throughout our professional lives students of medicine. The only difference between you and the faculty is that we are at different stages of this exciting and challenging learning experience.

If this is true, then we certainly can expect you to accept those people who serve in the capacity of the faculty as colleagues and fellow students and realize that we accept and respect you in the same capacity. We, through our associations and close relationship over the next four years, may expect that personal influences of individuals who serve as your teachers will exert great influences on your lives, both professionally and personally.

The school shall watch your progress from day to day with keen interest and concern. Great time and energy will be spent in your behalf throughout your stay here. We shall expect of you diligent and conscientious application and the giving of yourself to the fullest. As the years pass and you progress towards the time when you will receive your degree of Doctor of Medicine, we shall expect you not only to have acquired certain prescribed medical information and to have mastered the necessary skills which will qualify you to move on to the next phase of your education—namely, an internship—but we shall also expect you by that time to have developed a point of view, a philosophy of life, if you please, that will never permit you to be completely satisfied with what you have learned but will stir and prod you to seek deeper and deeper for more and greater knowledge and understanding. We shall not only expect these things of you, but with this we shall expect to see you developing in maturity, stature, judgment, personality, and all those traits of character which enables one to say, "There stands a man," as well as a doctor.

I regret to say, but nevertheless I believe it is true, that the average physician today does not occupy quite the position of respect, trust, and confidence in the public eye that he did a generation ago. Some of the shroud of mystery has been removed from the medical man and in a sense this is good, for the blind trust and confidence many previously enjoyed I am sure was never justified. Yet many of the fine things which made doctors

of yesterday stand out at the top of the leaders of their communities have been sadly lacking in the younger doctors of today. There are many reasons for this, far beyond the scope of our time tonight, yet it seems clear that much of the criticism leveled at us today by the public may be explained by our own shortcomings.

Medicine is a science which deals with the most precious thing we possess; namely, life itself, and as such it is not science alone but there is an art and human understanding as well. The physician, whatever his area of chief interest may be, must not only be a competent scientist to the full extent of his ability, but he must also be capable of a deep sense of human understanding and tolerance in his relationships with people. This, in short, is the Art of Medicine, and in no sense precludes being a capable medical scientist. His deep concern for human welfare must make him into such a man that his interest goes beyond his daily work and responsibilities with his patients, but also leads him into areas of concern and responsibility for his entire community. It is his duty to work for everything which makes his community a better place for everyone to live.

It is the hope and expectation of this school that each one of you becomes a good citizen with a keen sense of social consciousness and responsibility—in brief, that you become good citizens as well as competent physicians.

This medical school has a long and rich heritage into which you come to share and play your respective roles. One of the outstanding characteristics of students who have attended this school has been their loyalty and love for all it has stood for. I feel that this in large measure has resulted from the personality of the school, which of course is nothing more or less than the reflection of the personalities of the individuals who have been and are the school. There has always been a fine spirit of helpfulness and personal interest in all faculty-student relationships. One gets by giving. It would be our hope that the School would make such an impression on your life that you would feel that same sense of loyalty and that you would give generously of your support to its endeavors.

There are three basic essentials to the educational process: a student who possesses the ability and willingness to learn, a teacher who is learned in his subject and who possesses the ability to pass that knowledge on to someone else, and the physical facilities necessary to provide the tools for teaching and learning.

For the purposes of our discussion tonight you represent the student; the faculty of the Medical School is the teacher; and these buildings with their laboratories, library, hospital, patients, and, in fact, all the resources of the entire University represent the facilities. As no tripod can stand level with one leg shorter than the other, so it is that each of these three facets is essential to good education; yet, in my own mind, the most important ones are the student and the faculty. In 1871 James Garfield, in giving an address at Williams College, made a statement which has often been quoted and I believe illustrates this point quite well. He phrased the thought in these words, "Give me a log hut with only a simple bench, Mark Hopkins on one end and I on the other, and you may have all the buildings, apparatus, and libraries, without him." As fine as these buildings are, and as comfortable as those seats you are occupying may be, and even if we had tenfold the library and laboratory space which now exists, it would all be but as a hollow symbol unless they housed good students and a capable faculty dedicated to teaching those students what we believe to be true today and who were everlastingly through research in the laboratories searching for the truth and to extend the frontiers of medical knowledge.

I can assure you that you have every right to expect the faculty of your medical school to be learned men who not only possess knowledge themselves but who also possess that innate ability and zeal to pass that knowledge on to you. Even more important, you may expect those men to give you—in addition to information—that spark which stimulates you to seek information and knowledge for yourself. This is the basic and important phase of your learning process. When this has been imparted to you and absorbed by you, then and only then are you on the high road to becoming an educated individual.

You may expect your teachers to regard you with both respect and affection and to treat you as individuals, realizing that no two people fit into the same pattern, nor do they react to a given stimulus with the same response. You may expect from them guidance, help and wise council, designed not to settle your problems for you but rather to show you how to select a course of action for yourself, thereby aiding in your growth and development. I can assure you that all this, and more too, will be available while you are students here, and at the same time you should know that work and merit resulting from it will be recognized, but never will slovenly habits, shortcuts, or dishonesty be tol-

erated. In short, you may expect your medical school to provide for you the facilities, wise and competent teachers, and an environment in which you will have the opportunity to acquire for yourself the very best medical training that this day and age affords.

When you reach that time when you are ready to graduate and you hold the M.D. degree from this institution, it is your right to expect that the School's interest and concern for your educational welfare not cease but to continue. When you have graduated, then, in academic terms, this medical school becomes your Alma Mater. Now *Alma Mater* literally translated means "fostering mother." The word *Alma* is an adjective and it comes from the verb *alo* which means "to feed," "to nourish," "to support," "to sustain," or "to revive." All of these meanings have implied in them "to help" and that is exactly what you may expect from your Alma Mater, and what she is most desirous of doing. It has always been, and, I pray, will always be, the ambition of this school to be a source of succor and strength to her graduates. This opens many opportunities to you in the years to come, extending all the way from providing information about your contemporaries, aid in planning your further training, information pertaining to possible locations, consultations, moral support and encouragement; to a definite responsibility in your continuing education through the medium of conferences, research, seminars, scientific papers before medical societies and a well-organized and integrated program of postgraduate education designed to aid you in keeping abreast of the constant progress and changes in medicine.

I hope these thoughts may help to give you, at this the beginning of your medical career, some insight into what you may expect and what shall be expected of you; that possibly you may find it a little easier to adjust yourself more readily into what should be one of the most thrilling and profitable experiences of your life. Like all things in life, it will not all be easy and there will be some dark days, but one gains strength only by pulling against the oar. It is a two-way street: you make your contribution to the full extent of your talents and the School meets and discharges its responsibilities to the fullest possible extent, and each will gain much from the other.

Assessment of the Severity of Mitral Stenosis by Phonocardiography

By Robert L. Murray

With recent advances in cardiac surgery and established techniques for widening a stenosed mitral valve, the problem of assessing the severity of mitral stenosis objectively has become an increasingly perplexing one. A clinical history of extreme disability is not always a valid indication of the size of the mitral orifice owing to the possibility of superimposed rheumatic activity, and the patient's subjective complaints are often colored by emotional factors. Even the more objective methods may be misleading. The intensity of the characteristic apical diastolic murmur of mitral stenosis has proved in the experience of many clinicians to be no index of valve size. X Ray and electrocardiography provide useful information but have merit only as ancillary findings. The ideal study would be measurement of pressure in the left atrium and the pressure gradient across the mitral valve since these measurements are physiologic functions of the deformed mitral valve and narrowed orifice. Obviously direct measurement would be impractical, but measurement of left atrial pressure is approached by determining the pulmonary capillary pressure at cardiac catheterization. Certainly catheterization has proved the most useful diagnostic tool in assessing the severity of mitral stenosis. Abnormal elevations of pulmonary capillary pressure are found in patients with mitral stenosis and are thought to approximate the elevation of left atrial pressure resulting from incomplete emptying of the left atrium through the narrowed mitral orifice.

Certain mechanical events in the cardiac cycle which are dependent upon pressure relationships between various heart

Editor's note:

The fourth year curriculum at U.N.C. School of Medicine includes the writing of a term paper on some subject of the student's own choosing. These papers are received by a committee of the faculty and the best one is submitted for publication in the Bulletin. The editors are pleased to publish this interesting piece of original work on an important subject by the prize-winning student of the fall term, 1955.

chambers are manifest through vibrations of sufficient amplitude and frequency to be heard with a stethoscope and more accurately recorded and timed with a phonocardiograph.

The main vibrations of the first heart sound represent closure of the AV valves, which occurs in systole as ventricular pressure overcomes atrial pressure. The main vibrations of the second heart sound are produced by closure of the semilunar valves as ventricular pressure falls below that in the aorta and pulmonary artery. In mitral stenosis another sound is produced by the opening of the thickened mitral valve leaflets. This is known as the opening snap of the mitral valve. This sound occurs in diastole when left atrial pressure exceeds pressure in the left ventricle. Since pressures in the heart chambers are altered in mitral stenosis, the timing of the heart sounds, which are dependent upon pressure relationships, should be altered to a degree that might even reflect the severity of stenosis.

A phonocardiogram, with a simultaneously recorded electrocardiogram for reference tracing, can be used to measure altered timing of heart sounds. In mitral stenosis variations have been noted in the interval between the QRS complex of the electrocardiogram and the first heart sound (Q-1 interval) and between the second heart sound and opening snap of the mitral valve (2-OS interval). In patients with mitral stenosis who have auricular fibrillation, a short preceding cycle length results in a delayed first sound and a short interval between the second heart sound and the opening snap. A long preceding cycle length results in a short interval between the QRS complex and the first sound and lengthening of the interval between the second sound and the opening snap. Studies indicate that in mitral stenosis and in auricular fibrillation with a short preceding diastolic interval, the delay in the first heart sound is due to a delay in closure of the mitral valve rather than any delay in mechanical contraction of the ventricle. When diastole is short and the mitral opening narrow, the left atrium is not completely emptied, thus the left atrial pressure is higher at the beginning of ventricular contraction and a longer period of time is required for left ventricular pressure to exceed left atrial pressure and close the mitral valve.

The same mechanism is responsible for the varying time relationship between the second heart sound and the opening snap. The second sound, timing closure of the semilunar valves, occurs when ventricular pressure falls below that in the pulmonary

artery and aorta. Ventricular diastole follows and the mitral valve opens when pressure in the ventricle falls below that in the left atrium. Following a short diastolic interval and with a narrow mitral valve, the left atrial pressure remains high during systole, and the valve is forced open earlier in diastole.

METHOD OF STUDY

Heart sound tracings were made on the Sanborn Twin Beam phonocardiograph at a speed of 75 mm. per sec. with reference electrocardiogram recorded over lead II. The Q-1 interval was measured from the beginning of the QRS complex to the beginning of high frequency, high amplitude vibrations in the first heart sound complex. The 2-OS interval was measured from the beginning of the second heart sound to the beginning of the opening snap. The R-R interval is measured from R wave to R wave on the electrocardiogram. Apex tracings were made on normal individuals and on patients with mitral stenosis who had no active carditis, and did not show significant regurgitation or aortic disease. The observed Q-1 and 2-OS intervals were correlated with mitral valve size in those instances where this information was available.

RESULTS

Tracings on 20 young healthy males having no previous history of heart disease revealed Q-1 intervals ranging from 0.06 sec. to 0.08 sec. with a mean of 0.072 sec. and mode of 0.08 sec.

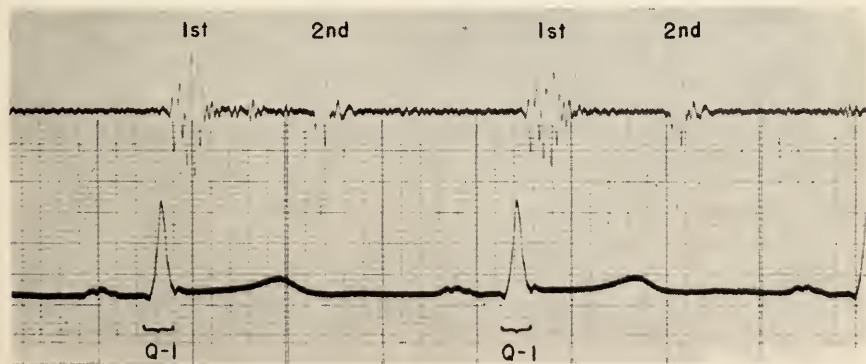


Figure 1. Phonocardiographic tracing from normal individual recorded at the apex with reference EKG at lead II. The first and second heart sounds are indicated. Q-1 interval is 0.07 sec.

These intervals did not vary significantly after the individual was exercised and the heart rate increased. (Figure 1)

In seven patients with mitral stenosis and auricular fibrillation, graphs were made plotting Q-1 and 2-OS intervals against the preceding R-R interval. Illustrations of these graphs are omitted because of limited space. In each instance, however, as R-R decreased, Q-1 lengthened and 2-OS shortened in an almost linear fashion. These data confirm the observations of other investigators and suggests that increased atrial pressure is responsible for delayed valve closure and earlier valve opening after a short diastole.

In 21 patients with varying degrees of mitral stenosis, Q-1 intervals ranged from 0.08 sec. to 0.12 sec. with a mean of 0.098 sec. Of these 21 patients, 13 had demonstrable opening snaps. The 2-OS intervals in these individuals ranged from 0.05 sec. to 0.14 sec. with a mean of 0.087 sec. (Figure 2)

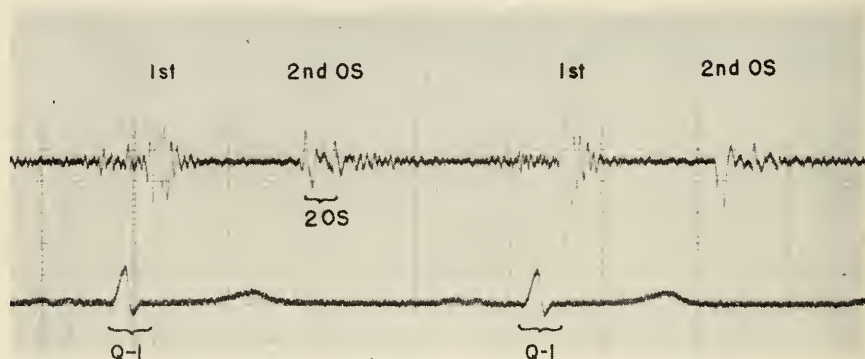


Figure 2. Apical phonocardiographic tracing from a patient with mitral stenosis having regular rhythm. The Q-1 interval is 0.09 sec. and 2-OS interval is 0.08 sec.

In patients with auricular fibrillation, where Q-1 and 2-OS varied from cycle to cycle, these values were corrected to a cycle length of 0.80 sec. so that there would be a single value for each patient for entry on the charts comparing these values with mitral valve size.

In order to determine whether or not Q-1 and 2-OS intervals bear relationship to the severity of mitral stenosis, each of these intervals was compared with an estimate of the patient's mitral valve size as determined by cardiac catheterization. Illustrations of these comparisons are omitted because of limited space. It was shown, however, that long Q-1 intervals and short 2-OS intervals are associated with small valve areas. By subtracting 2-OS from

Q-1 a single value is available in which the two intervals complement each other. One obtains, then, a combined effect of increased atrial pressure on opening and closure of the mitral valve. Comparison of Q-1 minus 2-OS values with mitral valve size is shown in Figure 3.

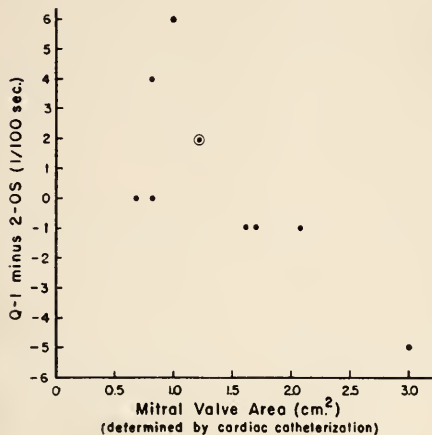


Figure 3. This chart compares the combined Q-1 minus 2-OS value with mitral valve size as determined by cardiac catheterization.

DISCUSSION

The data presented demonstrate the altered timing of various normal and abnormal heart sounds in mitral stenosis, both with auricular fibrillation and sinus rhythm. If these deviations from the normal picture are, in fact, functions of the pressure gradient across the mitral valve, it would seem that these measurements might indicate the severity of mitral stenosis. There is some correlation between long Q-1 intervals and severe valve narrowing. In those instances where Q-1 is 0.10 sec. or longer, the valve area is 1.0 cm.² or smaller. Q-1 intervals of 0.09 and shorter show a wide variation of valve size, from 0.8 cm.² to 3.0 cm.². 2-OS intervals less than 0.10 sec. are associated with small valve areas.

The most significant correlation with mitral valve size is found by utilizing the combined Q-1 minus 2-OS value as shown in Figure 3. Q-1 minus 2-OS values ranging from zero to plus 6 are associated with valve areas smaller than 1.5 cm.², whereas negative Q-1 minus 2-OS values are associated with valve areas greater than 1.5 cm.².

Owing to limited estimates of valve size by cardiac catheterization, the number of comparisons made between phonocardio-

graphic measurements and mitral valve size is small, but the data as presented does show a significant trend. Undoubtedly, there must be other factors such as valve flexibility influencing these measurements to an unknown degree. These can be worked out only when additional data are accumulated. If, however, further data adding more points to the curve, especially in the ranges of large valve area, show close relationship between phonocardiographic measurements and mitral valve size, one might be able to predict from phonocardiographic measurements alone, with some degree of accuracy, the severity of mitral stenosis.

The Problem of Financing Medical Education

(Continued from Page 9)

dollar, but three and a half cents would do the job. One cent extra for some essential construction this year, would be well used immediately.

Health education is one of the greatest investments that society can make in itself. Leadership in this field today is not wanting. It is plainer than ever before, however, that a well-informed public must support this service vigorously if it is to maintain its position of excellency.

DON'T FORGET

MEDICAL ALUMNI DAY

Wednesday, March 28, 1956

PLAN NOW TO ATTEND

A Continuation of the

Panel On Humane Letters And Human Illness

PROFESSOR STERLING A. STOUDEMIRE, Head

Department of Romance Languages, *Presiding*

Moderator: PROFESSOR EVERETT W. HALL, Philosophy

Participants

PROFESSOR U. T. HOLMES, Romance Philology

PROFESSOR A. C. HOWELL, English

PROFESSOR S. E. LEAVITT, Spanish

PROFESSOR C. P. LYONS, English

PROFESSOR B. L. ULLMAN, Classics

DOCTOR NATHAN A. WOMACK, Surgery

Professor Holmes

It is said of Ralph Waldo Emerson that when he went somewhere to give a lecture he would carry several different manuscripts with him. He would look the audience over and then make his selection. I thought of doing this myself but I was informed by our moderator that my remarks should look informal. So I've only one paper in front of me, but I've mixed up the subject matter a little and each one of you may find something useful in the course of the next eight minutes.

It is possible to discuss the humanities on a deep philosophical level, or from a very practical point of view. Usually we mix the two treatments, and that, I suppose, is what we are doing this afternoon. Deeply speaking, it can be said that liberal culture is the freedom of enlightened choice, which encourages and then follows upon learning, imagination, sympathy, dignity, and stability. If this be true, then it's a wonderful end point which each

This is the third installment of a panel on Humane Letters and Human Illness presented on the occasion of the celebration of the 75th Anniversary of Medical Education here at the University in April, 1955. The final installment of the panel will appear in the next issue.

of us, especially a young doctor, should endeavor to achieve. Of course, when we are confronted with inevitable tragedy in this world around us the individual perforce must accept, and he cannot choose between happening and not happening. But humanism permits him to understand better and not kick hopelessly against the pricks. There's a beautiful passage in the ecclesiastical history of the English nation by the Venerable Bede. Remember that by our present day standards Bede was little better than the other barbarians of the 8th century who surrounded him, except for two things—his humanistic culture, and his Christian faith. I will quote:

"Another of King Edwin's chief men, approving of the words and exhortations of Paulinus presently added, 'The present life of man, o, king, seems to me in comparison to that time which is unknown to us, like to the swift flight of a sparrow through the room wherein you sit at supper in winter with your commanders and ministers with a good fire in the midst, whilst the storms of rain and snow prevail abroad. The sparrow, I say, flying in at one door, and immediately out at another, whilst he is within is safe from the wintry storm, yet this smallest space of calmness being passed almost in a flash, from winter going out into winter again, it is lost to your eyes. Somewhat like this appears the life of man, but of what follows or what went before, we are utterly ignorant.'"

This beautiful passage reflects a humanistic approach to the ultimates of life in a way that most of us cannot equal today. The Middle Ages teach us a clear vision of the mysteries of life and of death, for their daily pattern was centered much around those realities and they did not drop a curtain before them as modern man so frequently does today. Starting from a simple story the mediaeval humanist had the facility of reading into it different levels of interpretation: the allegorical, the moral, and the analogical. This last, from the Greek meaning 'lead up to' approaches the highest Truth of all. The Venerable Bede, whom we have just quoted wrote in the earlier Middle Ages, and thus we find an illustration from simple life; but in later periods, the scholars went farther back into their books, and drew afresh upon ancient culture, as they could reconstruct it, and added this to what they had experienced themselves. Many of the sublime mysteries which we know of vaguely today come from the Middle Ages. One that I'm very fond of is the Story of the Grail—another is the immortal Divine Comedy of Dante with all its implications, and so on.

Now if you will permit me for a few seconds to leave the sublime for the trivial I can point out to you that many of the little customs that you practice without understanding, such as walking on the outside of the lady against the curb, shaking hands, using a lance's head for a flagpole, and even some that you no longer follow, such as proposing to a lady on bended knee, are leftovers from our mediaeval heritage which is deep within us.

Surely any consideration of the background which makes us act as we do, which gives us enlightened choice, should produce better understanding of the past and present.

Now, to go a little deeper once again. We have just hinted that the principle characteristic of mediaeval and Christian humanism is care for both the body and the soul. Mediaeval thought was quite well proportioned in this matter, but modern pragmatists do not make a careful search into mediaeval material, and they are quite ready to come out with the idea that the mediaeval church was concerned only with the soul, and very little with the body. But true Christian humanism does not hide anything from man—it promises what may seem absurd to the non-believer, that God has given us victory over all, that anguish is but a preliminary to the true end of man, which is God. The mediaeval philosopher believed that to cure the body you must at the same time work upon the soul.

Now, to lower our sights again, and speak in a less solemn and philosophical vein, mediaeval literature, when you really know it, resembles a cool refreshing breeze for your fevered brow. Year after year for thirty years and more I have had the pleasure of observing the reaction of men and women to the lays of Marie de France, Aucassin et Nicolette, the Chanson de Roland, Arthurian Romance, the Romans de la Rose, and certain tales of Reynard the Fox. It is plain to me that association with people of old, and their imaginative creators, gives depth, sympathy, dignity and even stability, as we have phrased in our opening paragraph. The great charm of this material is the stark reality which it depicts. The warmth and grandeur of life, experience so vigorous, alongside tragedy and destruction. It was a glorious struggle for all, and survival, perhaps for only the fittest. A mediaeval theme which was most prevalent is entirely familiar to you—the belief that true values are not discernible on the surface: the best horse may be the poor scrubby-looking nag; the poor fool may be the wisest adviser in the end. This motif of hidden virtue is of course

united with Christian belief in the humble and the meek. The great charm of mediaeval literature is its presentation of Christian themes, in perhaps a stark and exaggerated way, which reveal true beauty and efficacy.

If you're idly curious about some of this you should come to Murphey Hall some afternoon and observe the experience for yourself. Now I realize in my heart that no premedical student is going to be sent for graduate work in our department to study Old French. I'm addressing you, therefore, on slightly false pretences. What I'm really urging is that, without reference to any particular century, ancient, mediaeval or modern, the prospective medic should learn with care a slice of life from another time. We cannot appreciate fully the problems of our own age on a moral and reflective basis unless we have something with which to make comparison.

Choose a point of reference in the past and study around it with care, learning its weaknesses and its strength. Your appreciation of man, and of woman, seen thus in two ages, your own and the older one, will grow. It so happens that I know of several physicians who have done just that—the line drawings in my little book, "Daily Living in the Twelfth Century," were made for me with loving care by my son-in-law, a "plumber" (a urologist). I am certain he has been the better for his fondness in dipping carefully into the past. I can recall the first family doctor whom we had here in Chapel Hill. He has been in a city close to New York for these twenty-five years. When he began his medical studies it was a hard choice for him between medicine and mediaeval history. I could mention other names, some of them distinguished ones, but these that I know best should suffice for the present.



Abstracts from the

Research Conferences School of Medicine

A forum in which the results of investigative work can be reported and discussed is afforded by the School of Medicine Research Conference held on the last Thursday evening in each month at 7:30 o'clock in Room 324 of the School of Medicine Building. The meetings are open to all persons interested.

The Editors of The BULLETIN present here abstracts from several of the presentations, and hope to include other abstracts in subsequent issues.

Spontaneous Masculinization of Old Female Mice of the C Strain

By Charles W. Hooker, Ph.D., Professor of Anatomy

Among mice of the Strong C strain approximately one-half of the females more than one year old exhibit masculinization that is manifested as hypertrophy of the clitoris, fibrosis of the endometrium, and the presence of submaxillary glands of the type that characterizes males. All of these masculine traits have been provoked in young females by administration of androgen, suggesting that endogenous androgen is responsible for the changes seen in the spontaneously masculinized old females. The adrenal cortices in all old mice of this strain show subcapsular hyperplasia, but the masculinized and unmasculinized females had adrenal glands that were alike. The ovaries of the masculinized females regularly exhibited masses of eosinophilic interstitial cells, a feature regularly absent from the ovaries of the unmasculinized females. These observations suggest the ovaries to be the source of the androgen in the masculinized females.

The incidence of mammary tumors in the unmasculinized old females was roughly 65 per cent. In the masculinized females the incidence of mammary tumors was roughly 30 per cent.

The Substitution of Nitrate for Chloride in Body Fluids

By Edwin P. Hiatt, M.D., Associate Professor of Physiology

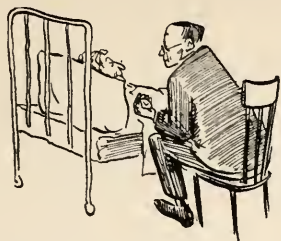
Although sodium chloride is ordinarily regarded as a pharmacologically inactive salt, or "osmotic stuffing," it is still irreplaceable in the body. The cells which regulate the composition of body

fluids are so delicately adjusted to the sodium and chloride ions that no other ions can be substituted for them. Sodium nitrate comes closest to being a non-toxic substitute for sodium chloride of all salts investigated. It provides a tool for studying the effect of varying the chloride concentration in body fluids while maintaining the sodium ion constant. The nitrate ion is excreted much more rapidly than the chloride ion. Furthermore, it enhances the simultaneous excretion of chloride so that the end result of an administered dose of sodium nitrate is a reduced volume of extracellular fluid. Large doses of ammonium or potassium nitrate have virtually as much diuretic effect in dogs as large doses of the organic mercurials or carbonic anhydrase inhibitors commonly used in medical practice.

The Role of the Neural Tube and Notochord in Development of the Axial Skeleton of the Chick

By Ira Fowler, Ph.D., Instructor in Anatomy

The diameter of the vertebral canal is controlled precisely by the diameter of the spinal cord. Vertebral cartilage fails to form in the absence of both neural tube and notochord but forms in the presence of the latter alone. The capacity of isolated somites for formation of vertebral cartilage in choric-allantoic grafts increases the later they are isolated from neural tubes; capacity for formation of cartilaginous rods is acquired before capacity to form vertebra-like masses. Neural tubes induce paired neural arches if transplanted into a row of somites, median neural arches if lateral to the latter, cartilaginous rods if lateral and far ventral, no cartilage if graft is too small. Inductive influences on somites can be mediated by both ependymal and marginal zones. Lateral halves of somites can form vertebral cartilage; segregation of somites into sclerotome, myotome and dermatome can be controlled extrinsically. In the absence of notochords spinal cords are still encircled by vertebral cartilage; notochords are dispensable insofar as formation of vertebral cartilage and neural arches is concerned. Production of highly abnormal notochords leads to production of correspondingly abnormal centra. Transplantation of notochords lateral to a row of somites can induce centrum-like structures independent of host axial skeletons. Vertebral ribs form alongside highly abnormal vertebral columns but their morphological details are modified, and fusions of ribs transversely and antero-posteriorly then occur.



ALUMNI NOTES

William E. Wilkinson, '30, formerly at Walter Reed Hospital, has retired from the Army and is now living at 1204 Ruffin Street, Durham, N. C.

Joseph W. Eaton, '32, has moved from New Orleans to 3815 Fifth Avenue, N, Saint Petersburg, Florida.

Thomas Booth Spencer, '36, writes that he is now living in Southampton, New York; his residence is at 191 Herrick Road.

Walter Eugene Furr, Jr. '44, is practicing surgery in Miami, Florida; his office is located at 282 N. E. 118th Street; his residence is in Coral Gables.

J. Hicks Corey, Jr., '45, has completed a tour of duty with the Army and is now living at 614 Maple Street, Greenville, S. C.

George W. Farris, '46, who has been at the East Tennessee Tuberculosis Hospital in Knoxville for the past several years, is now on the staff of the Baroness Erlander Hospital, Chattanooga.

George J. Nassef, '46, until recently in practice at West Palm Beach, Florida, is in the Navy; his address at Christmastime was USMC-FSA, Portsmouth, Virginia.

Ira A. Abrahamson, Jr., '46, is now a diplomat of the American Board of Ophthalmology and is practicing with his father at 925 Fifth-Third Bank Building, Cincinnati. He has a teaching appointment at the University of Cincinnati School of Medicine and at the Cincinnati Jewish Hospital School

of Nursing, and is on the attending staff of the Cincinnati Jewish, General, Children's and Good Samaritan Hospitals.

Roger M. Winborne, Jr., '46, for the past two years a member of the resident staff of the North Carolina Memorial Hospital, is in practice in Roanoke, Virginia; his address is 2131 Broadway Avenue, S. W.

Dexter T. Witherington, '46, has joined the surgical staff of the Parrott Hospital in Kinston, N. C.

Robert C. Rood, '47, is practicing in Morley, Michigan.

William F. McNeely, '48, has a new address: 130 S. Huntington, Jamaica Plains 30, Massachusetts.

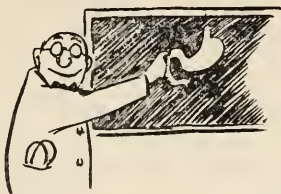
Robert B. Pennington, '49, has written that after two years in the Navy he joined the staff of the Ashe County Memorial Hospital in Jefferson, North Carolina, and was there for two years. In July 1955 he began training in anesthesiology at Hartford Hospital in Hartford, Connecticut.

William B. Harris, '50, began a residency in surgery last July at the University of Iowa Hospital.

George Robert Smith, '51, is doing general practice in Shawsville, Virginia.

Hubert Durwood Tyndall, '54, has opened his office for the general practice of medicine at 208 North Herman Street, Goldsboro, North Carolina.

(Continued on Page 35)



WITH THE FACULTY

OBSTETRICS AND GYNECOLOGY

Doctors Ross, Leary and Palumbo participated in the program of the American Academy of Obstetrics and Gynecology in Chicago, Illinois, in December. Dr. Ross led discussions on "Obstetric Consultations" and "Study and Treatment of Vaginitis and Vulvitis." Dr. Palumbo discussed "Vaginal Hysterectomy" and "Diabetes Mellitus Complicated by Pregnancy." Dr. Leary led a discussion on "Sterility Studies."

* * * *

On January 10 Dr. Eleanor Easley, Assistant Clinical Professor, spoke in Kinston, North Carolina, on "Functional Gynecology" and "Office Gynecology" as part of the Continuation Education Program.

* * * *

Dr. Charles Flowers spoke in Ahoskie, North Carolina, at the first District Postgraduate Medical Program on January 11, 1956. His topics were "Diabetes Mellitus Complicated by Pregnancy" and "Diagnosis and Treatment of Pelvic Malignancy."

* * * *

Dr. Ross delivered a paper in January before the American College of Surgeons Sectional Meeting in Jacksonville, Florida, on "Conservatism in Pelvic Surgery."

He also spoke to the Eastern Carolina Medical, Dental and Pharmaceut-

ical Association in Wilson, North Carolina, on "Toxemias of Pregnancy."

Dr. Ross was recently elected Vice-Chairman of the Section on Obstetrics of the Southern Medical Association for 1956.

* * * *

Dr. Leonard Palumbo addressed the Rocky Mount Academy of Medicine on "Diabetes Mellitus Complicated by Pregnancy" on January 19, 1956.

* * * *

SURGERY

Dr. Nathan Womack spoke in New Orleans at the Maes Lectures on "Chronic Cystic Mastitis and Cancer of the Breast." The Lecture was sponsored by Phi Chi fraternity at Louisiana State University and was held January 13-17.

While in New Orleans Dr. Womack also participated in the examinations of the American Board of Surgery.

* * * *

Dr. Beverly R. Raney attended the meeting of American Academy of Orthopaedic Surgeons which was held in Chicago January 27-February 3. Dr. Raney is Chairman of Instructional Course Committee.

* * * *

On December 10th Dr. Womack participated in the State Conference on Premedical and Predental Education and spoke on "The Qualifications of a Modern Physician."

PSYCHIATRY

The expanding residency training program of the Department of Psychiatry is one broad in scope and function. The program at present includes the inpatient and outpatient psychiatric services of the UNC Memorial Hospital, consultative activities with other services in the Hospital, child psychiatry, liaison with UNC Student Health Service, and experience in the State Hospitals.

Although obtaining psychiatric residents is a highly competitive area, the Department of Psychiatry now has twenty resident psychiatrists. In line with the present expanding program, there will be ultimately thirty-six full-time resident psychiatrists. Every practicable advantage is being offered to implement this program; it is hoped that in the future personal psychoanalysis and formal psychoanalytic training will be available to each interested resident. The aim, of course, is to maintain a high level of research and patient care in this field in North Carolina. To do this it is essential to maintain a highly diversified training experience for the psychiatrist in training.

Plans for the future point toward a far reaching, coordinated program operating not only within the University and State Hospital setting, but in conjunction with the courts, penal system of the State, and all pertinent community agencies.

BIOCHEMISTRY

J. Logan Irvin, Associate Professor of Biochemistry, School of Medicine, is now at the National Institutes of Health at Bethesda, Maryland, on a nine-month leave of absence to carry out research. He is working under a Guggenheim Fellowship, and during the grant period from December 15, 1955, through Sept. 15, 1956, he will be engaged in an investigation of

nucleic acids and nucleoproteins of cell nuclei. He and his wife, Mrs. Elinor Moore Irvin, have already done a great deal of research in this field.

Last February they received a one-year (July 1, 1955 to June 30, 1956) grant from the American Cancer Society to conduct a study in nucleic acids.

PEDIATRICS

Dr. Edward C. Curnen represented the American Academy of Pediatrics at a meeting on December 7, 1955 in the Surgeon General's office at Washington, D. C. This meeting was held to discuss the distribution and use of poliomyelitis vaccine during the coming year.

Dr. Robert W. Winters presented a paper on "The Effects of Phosphate on the Renal Lesions of Potassium Depletion" at the Annual Meeting of the Southern Section of the American Federation of Clinical Research in New Orleans, Louisiana on January 20, 1956.

Dr. Nelson K. Ordway attended the Institute on Human Growth and Development at Greenville, South Carolina on January 30 and 31, 1956. He presented a paper on "Physical Development and its Relation to Sexual Maturity in the Adolescent" and participated in a panel discussion on "Problems of the Maturing Age."

PATHOLOGY

Dr. K. M. Brinkhous attended the annual meeting of the Pathology Test Committee of the National Board of Medical Examiners in Philadelphia, January 6 and 7, 1956.

PHYSIOLOGY

Dr. John H. Ferguson participated in the conferences of the Harvard Commission on Plasma Fractionation at Cambridge, Mass., January 5-6, 1956.

MEDICINE

Dr. Charles H. Burnett has been awarded a Cancer Institutional Research Grant in the amount of \$500 for the period ending August 31, 1956. This money will be used to help activate the Metabolic Ward.

Dr. Ernest Craig has been awarded a USPHS grant in the amount of \$24,991 for the period January 1, 1956 through December 31, 1956. This is a renewal of Dr. Craig's undergraduate cardiovascular training grant to be used in the purchase of equipment for making teaching more effective and for securing personnel to work in the field of heart disease and assist with teaching.

Dr. Thomas W. Farmer has been awarded a grant by the USPHS in the amount of \$10,000 for one year for a project entitled "Cooperative Study of the Effectiveness of 1-Asparagine in Control of Seizures."

Dr. Dan A. Martin has been awarded a Research Fellowship by the American Heart Association for one year, starting July 1, 1956, in the amount of \$5,000.

Dr. Jeffress G. Palmer has been awarded a USPHS grant for a one year period for research entitled "Investigation of Factors Influencing the Rates of Production and Destruction of Leukocytes".

Dr. Louis G. Welt has been awarded a USPHS grant in the of \$14,662 for the period January 1, 1956, through December 31, 1956, to continue a project entitled "Studies of the Factors Regulating the Internal and External Exchanges of Electrolytes and Water in Health and Disease."

Appointments In The Department Of Medicine:

Dr. W. Geoffrey Wysor, Clinical Assistant; Dr. Sarah Lou Warren, Fellow.

Coming to U.N.C. from private practice in South Boston, Va., Dr.

Wysor holds his B.A. and M.D. degrees from the Univ. of Va. Dr. Warren did undergraduate work at U.N.C. and medical studies at the Medical College of Va. She comes to U.N.C. from Alaska where she was a medical officer with the Alaska Native Service Hospital in Anchorage.

Dr. Warren also has an appointment as Fellow in the Department of Preventive Medicine.

Dr. Kerr L. White gave a talk entitled "Emotional Concomitants of Organic Disease" on January 9, 1956, at the V.A. Hospital in Salisbury, North Carolina, in connection with the professional education lecture series.

Drs. Charles H. Burnett, Walter Hollander, Jr., Thomas W. Farmer, Jeffress G. Palmer, Louis G. Welt and Frank Williams attended the Tenth Annual Meeting of the Southern Society for Clinical Research and American Federation for Clinical Research from January 19 through January 22. Dr. Hollander spoke on "Renal Concentration Defect in Potassium Depleted Rats" at the Southern Society for Clinical Research meeting.

SECOND LEE B. JENKINS MEMORIAL LECTURE

Dr. James V. Neel, Associate Professor of Medical Genetics, Heredity Clinic, University of Michigan, delivered the second Lee B. Jenkins Memorial Lecture of the University of North Carolina Medical School this year on January 19th. Dr. Neel's subject was "Inherited Abnormalities of Human Hemoglobin."

The Lee B. Jenkins Memorial Lecture is an endowed lectureship established by Mrs. Lee B. Jenkins, Kinston, N. C., in memory of her late husband, industrialist and civic minded citizen of Kinston.



STUDENT ACTIVITIES

SENIORS

SENIOR CLASS—The Senior Class with wives and dates held a mid-winter party and informal dance at the Chapel Hill Country Club on Saturday night, January 21.

BIRTHS—John and Shirley Hazelhurst announce the birth of a son, John L. Hazelhurst, IV, on January 8, 1956.

JUNIOR CLASS—The engagement of John Bradley and Mary Abernethy has been announced.

The internship applications have been filed and preference lists have been sent to National Internship Matching Program. A list of internships accepted by the Senior Class will be carried in the April issue.

WHITEHEAD SOCIETY — The annual Whitehead Society lecture will be given on March 22nd at 8:00 P.M. by Dr. Rene DuBos of the Rockefeller Institute. The lecture is entitled: "Some Reversible Changes in Susceptibility To Infection." All students, faculty and interested physicians are invited.

SOPHOMORES

As the winter quarter draws near a close, there is a rising apprehension and mild "panic" with thoughts of the May finals. The autopsy rotation has finally ended, to the relief of most of us. Dan Radar says he's quite sorry its all over. The weekly seminars in Genetics have been very interesting.

Another member of the class, Al

Koenig, took the matrimonial step over Christmas, with a luxurious honeymoon in Bermuda. Paul Weeks gave a diamond to his girl in New York.

On December 16, the class had another party at the famous "Elbow Room." From all reports, a good time was had by everyone. Dave Crosland, class president, says another party is to be planned soon.

OCCUPATIONAL HEALTH SEMINAR

The third annual Seminar on Occupational Health was held on Feb. 9 and 10 at N. C. Memorial Hospital for physicians and industrialists from North Carolina and other southeastern states.

Some 17 top representatives from health and industrial fields served as symposium speakers, according to Dr. William P. Richardson, assistant dean for continuation education of the UNC Medical School.

The seminar was sponsored jointly by the UNC School of Medicine, the Occupational health committee of the State Medical Society, and the Liberty Mutual Insurance Co., "in recognition of the need for and interest in the development of more adequate industrial health services in the rapidly expanding industries" of the southeast. Financial assistance to the Seminar was also given by the North Carolina Medical Foundation.



POSTGRADUATE NOTES

Statesville and Albemarle Postgraduate Courses

A six-weeks postgraduate medical program will begin in Statesville Tuesday, March 13, and in Albemarle Wednesday, March 14, for doctors in these areas. The programs for these two courses are as follows:

March 13 & 14—Statesville and Albemarle—Dr. Leandro M. Tocantins, Professor of Clinical and Experimental Medicine, Jefferson Medical College, Philadelphia, "Endocrines and Blood" and "Fundamental Principle in the Treatment of Hemorrhagic Disorders."

March 20 & 21—Statesville and Albemarle—Dr. C. Everett Koop, Associate Professor of Surgery, University of Pennsylvania School of Medicine, Philadelphia, "Undescended Testicle—A Logical and Embryological Approach" and "The Philosophy of Abdominal Pain in Children."

March 27 & 28—No Program—U.N.C. Medical Alumni Meeting at Chapel Hill.

April 3—Statesville—Dr. Colin G. Thomas, Jr., Assistant Professor of Surgery, University of North Carolina School of Medicine, and Dr. Louis G. Welt, Professor of Medicine, University of North Carolina School of Medicine, "Diseases of the Thyroid: Diagnosis and Medical and Surgical Treatment."

April 4—Albemarle—Dr. Newton E. Fischer, Assistant Professor of Surgery (Otolaryngology), University of North Carolina School of Medicine, "Handling Ear, Nose, and Throat Problems in General Practice."

April 10—Statesville—Dr. Eugene A. Stead, Jr., Professor and Head of the Department of Medicine, Duke University School of Medicine, "Coronary Artery Disease" and "Endocrine Madness."

April 11—Albemarle—Dr. Fred K. Garvey, Chief of Urology, Bowman Gray School of Medicine of Wake Forest College, "Office Genito-Urinary Practice" and "Lower Nephron Disease."

April 17 & 18—Statesville and Albemarle—Dr. Sol Katz, Chief, Pulmonary Division, District of Columbia General Hospital. Adjunct Clinical Professor of Medicine, George Washington University School of Medicine, "Mediastinal Tumors" and "Procedures and Diagnosis of Pulmonary and Pleural Diseases."

April 24—Statesville—Dr. James T. Donnelly, Obstetric Consultant, North Carolina State Board of Health. Clinical Associate Professor of Obstetrics, University of North Carolina School of Medicine, "The Proper Use of Pitocin in Obstetrics" and "Hemorrhage in Pregnancy Associated with Defects in the Clotting Mechanism."

April 25—Albemarle—Dr. Colin G. Thomas, Jr., Assistant Professor of Surgery, University of North Carolina School of Medicine, and Dr. Louis G. Welt, Professor of Medicine, University of North Carolina School of Medicine, "Diseases of the Thyroid: Diagnosis and Medical and Surgical Treatment."

(Continued on Page 35)



HOUSE STAFF NOTES

Dr. Harry Kuhlman, exchange resident from the Margaret Hague Maternity Center in Jersey City, New Jersey, completed his residency in Obstetrics and Gynecology in December. He has reported to the Army for additional duty.

Dr. Ralbot Parker of Goldsboro, North Carolina, exchange resident from Watts Hospital in Durham, is now Assistant Resident on Obstetrics and Gynecology as of January 1, 1956.

Postgraduate Notes

(Continued from Page 34)

All meetings will be held at the Statesville Country Club and the Hotel Albemarle.

* * * * *

A three-day postgraduate medical course designed for general practitioners will be held in Chapel Hill, Tuesday, Wednesday and Thursday, March 6, 7 and 8. Tentative plans call

for the presentation of subjects as follows:

Tuesday A.M.—Joint program on dermatology and psychiatry

Tuesday P.M. — Cardiovascular Diseases

Wednesday A.M. and P.M.—Medical Problems of Special Significance in Adolescence

Thursday A.M.—Liver diseases

Thursday P.M.—Cancer

Complete information concerning the courses is being sent to all North Carolina physicians.

Alumni Notes

(Continued from Page 29)

Richard W. Borden, '51, has opened his office for the general practice of medicine in Goldsboro, North Carolina.

Edward T. Viser, '51, who has been in Roanoke Rapids for the past year,

has gone into practice in Ahoskie, North Carolina.

Richard B. Gibson, '51, is Flight Surgeon for Carrier Air Group Nine at the Naval Air Station, Alameda, California, and expects to be there until the spring of 1957. His home address is 1376 Carlton Avenue, Menlo Park, Cal.

A STATEMENT OF APPRECIATION TO ALUMNI AND FRIENDS

The faculty, student body, and administration of the School of Medicine wish to express their sincere appreciation to the Officers, Counsellors, and Visiting Committee of the Alumni Association, to the twenty District Chairmen and their associates, and to alumni and friends for their interest and faithful efforts in support of the Medical Alumni Fund Drive.

While the goal set earlier in the fall by the alumni officers was not realized in the six-week drive from November 15 through December 31, 1955, it is encouraging that during this period 263 alumni and friends of the Medical School contributed \$15,273.00, a number of alumni for the first time. For the calendar year 1955, 335 alumni, or roughly 20% of those living, contributed \$20,515.00 in direct gifts to the Medical Alumni Fund of the Medical Foundation or to the American Medical Foundation Fund and designated those gifts for the University of North Carolina School of Medicine.

We would like to emphasize again that while the total amount of financial support from alumni and friends is important for both immediate and long-term development of the School, the number of alumni contributing is in the long run much more important. It is the wholehearted interest and support of the entire group of alumni—old and young—which the Medical School needs and seeks, and which we believe its accomplishments and its potential merit.

To all of you within and without the State we are deeply grateful for the spiritual and material assistance you have given. We will continue to depend upon this in the years ahead, and let's resolve now to make 1956 the best year in the history of the School.

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The BULLETIN

UNIV. NORTH CAROLINA. SCH. OF MED.

III

April, 1956

No. 4



1956 SENIOR CLASS, UNC SCHOOL OF MEDICINE

Identification on page 13

THE SCHOOL OF MEDICINE - THE MEDICAL FOUNDATION
COOPERATION WITH THE WHITEHEAD SOCIETY
THE UNIVERSITY OF NORTH CAROLINA - CHAPEL HILL

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THE BULLETIN

of the School of Medicine
in cooperation with the Whitehead Society
and the Medical Foundation
of the University of North Carolina

Vol. III

April, 1956

No. 4

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The Dean's Page

Congratulations to the class of 1956. In September of 1952, two weeks after the opening of the North Carolina Memorial Hospital, you entered this medical school 60 strong. While in the intervening years there have been defections because of academic failures and otherwise, there have also been additions to the class so that now as you enter the final quarter there are 59 of you who presumably will graduate in June. During these four years you have been victims of the inconveniences incident to incompleting physical structures—you have witnessed the growth and stabilization of the faculty and of the hospital. In short, in your undergraduate medical career you have played an important role in the exciting development that is the present Medical School of the University of North Carolina.

From the beginning you have been very substantial citizens—"Stout Fellows" would likely express this better. In the wise choice of Class Presidents McLendon, Thorp, Holmes and Clark you have had able leaders. From the viewpoint of the faculty you have appeared to work well as a group with a fine spirit, with mature judgment, and with a sense of community responsibility for the good of the entire School.

While an objective appraisal of the class of 1956 in relation to some preceding classes might justify the impression that there are perhaps fewer members who clearly stand out for their superior intellectual accomplishments, at the same time such an appraisal would undoubtedly suggest a general higher median range of accomplishments. As further supporting evidence for this statement is the fact that 46 out of 57 students (two because of other interests or experience are not taking internships) received their first choice of internships in the recent Intern Matching Plan, and eight their second choice. This is a remarkable record.

We express to each of you our sincere appreciation and gratitude for your contributions to the morale of the student body, for a job well done, and for your understanding and loyalty through these four exciting, formative, but at times difficult years. We shall miss you in the immediate future but we look forward to a long and pleasant association with you on your return to North Carolina in the not too distant future.

We wish you Godspeed.

For the Faculty
by

W. R. BERRYHILL, M.D.
Dean

THE CLASS OF 1956



CLASS OFFICERS: Clyde Lloyd, *Treasurer*; Lee Clark, *President*; Carey Perry, *Secretary*; John Vassey, *Vice President*.

Presents

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PATIENT'S NAME Class of 1956

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THE NORTH CAROLINA MEMORIAL HOSPITAL
UNIVERSITY OF NORTH CAROLINA
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DISCHARGE SUMMARY

Senior Class

Admitted September, 1950
Discharged, June, 1956



Attending physician:
Dr. Berryhill



Referring physician:
Dr. Hedgpeth

PRESENT ILLNESS

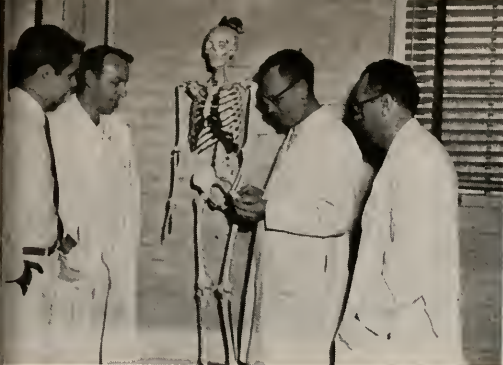
It would not be trite, but fitting, to begin this paragraph in the medical history of the class of 1956 by saying: "The patient was in his usual state of good health until—" but let us stop there—for unless, or until, one arrives at this point—there is no way of describing how this malady affects you.

Gone are the years "when did you read that?", or "how do you know?", and here we are in the year of "how could you have forgotten?"

You are away from the wards except for two wet weeks when you play "the plumbers-friend". You move from clinic to clinic, where you see sickness in small crowded windowless rooms, instead of the more comfortably congested wards. Just when you feel like you know what you don't know about pediatrics, you hear that you have two whole weeks to conquer ophthalmology—and so on to the emergency room, where you get those long referrals on prescription blanks.

While you are racked with the above symptoms, there are internships to think of, and someone "armchairs-up" a reason to have you write a term paper.

Perhaps as with every malady, it may best be understood by studying the past history and review of symptoms—and by so doing the reader will see that the present illness is only a portion of what the class of 1956 is enjoying in the pursuit of chronic happiness.



L to R: Riddle, Deyton, Dr. Van Cleave and Dr. Greene.



L to R: Purcell, Dr. Kaylor, Dr. George, McClean

ANATOMY

PAST HISTORY

On September 22, 1952, sixty bright-eyed embryonic doctors from various parts of North Carolina converged on the University of North Carolina School of Medicine at Chapel Hill to begin 4 years in the study of the art and science of medicine. We found ourselves gathered in room 216, listening with awe to Dr. Berryhill's welcome, and realized our long-standing ambition was at last being fulfilled. As the various department heads gave descriptions of our pursuit of medical knowledge in their respective fields, we became anxious to begin our new adventure. Our orientation was completed by Dr. George Ham's lecture "Changing Concepts of Integrated Medicine" which set the stage for 4 years of "Freudianism."

After purchasing over 40 pounds of books and proudly donning our long white coats, we went to our first class, biochemistry. Amid the thunder of air hammers and clouds of dust we spent six months acquainting ourselves with biochemical experimentation under the instruction of Drs. Andrews, Anderson, Irving and Wilson. The micro-Kheldahl, the Levine tubes and our 24-hour sojourn with the "little Brown jug" will not soon be forgotten.

The second day of classes we got our first glimpse of the newly-constructed anatomy lab and its contents. Before we could recover from the initial shock we found ourselves beginning dissection with the help of Drs. Van Cleave, Green and Kaylor. As the nine months wore on we began to wonder whether we or the cadavers would give out first.

Among the highlights of the course were Dr. Van Cleave's calisthenics and clinical description of the "Saturday-night palsy," the Monday morning conferences and our first exam.

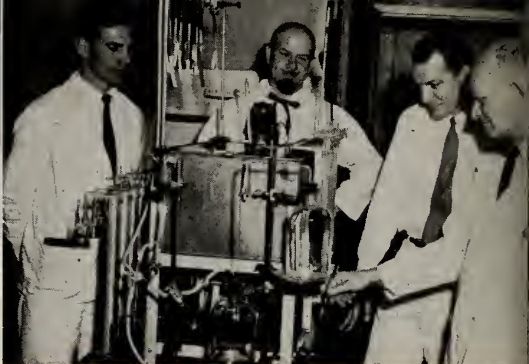
Under the guidance of Drs. Hooker and Parks we explored the mysteries of histology in lectures and laboratory. Cell by cell and day by day for three

BIOCHEMISTRY

L to R: Dr. Wilson, Clark, Vitols

L to R: Noell, Pittman, Dr. Anderson





L to R: Dr. Perlmutter, Brantley, Fowler

PHYSIOLOGY

L to R: Medders, Dr. Hiatt, Boy Dr. Miller

months we bent over our microscopes and coffee cups studying sections and listening to obscure theories. Following each examination we were duly impressed with our ignorance of English and the necessity of using a "writing instrument that leaves a trail."

The Saturday morning class entitled "Clinical Introduction" was soon found to be a course in sociology rather than an introduction to clinical problems, much to our dismay. Because of the smog in the room this course was never quite clear to us; it was reported that our instructor, Dr. Kerner, felt that what he considered moderation in smoking was never to smoke more than one cigarette at the time.

The physiology course consisted of lectures by Drs. Ferguson, Hiatt, Miller, and Perlmutter during the winter and spring quarters. The interrogations during these lectures gave us our first personal experience with clinical shock. Well remembered are "Miss Renal Pelvis of 1953", Dr. Hiatt's laboratory contests and prizes, and the physiology paper.

During the winter quarter we were led along the neural pathways by Dr. Truscott and in the spring quarter we studied embryology under Dr. George.

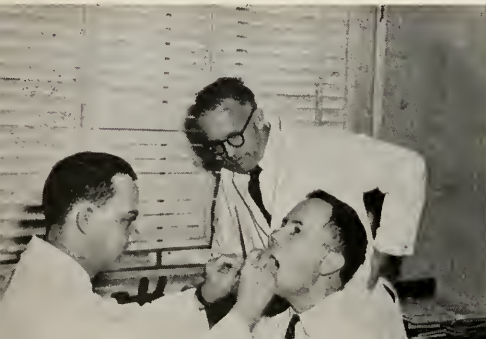
The summer of 1953 was spent in various ways; some did research, others worked in the hospitals while the majority enjoyed loafing. When we registered in September of 1953 for the second year we felt like veterans when seeing the starry-eyed freshmen. Pathology and bacteriology were to be our primary courses for the year.

Pathology lectures were given by Drs. Brinkhous, Graham, Penick, Swanton, Loring and "Virchow" Vennart. The slide projection periods during these sessions allowed many of our members an occasion for much-needed sleep. Laboratory periods were spent in studying gross specimens and microscopic sections with the "unknowns" adding excitement to the course. The autopsy service introduced us to that unpleasant term, "on call".

L to R: Vassey, Dr. Cromartie, T. Payne

BACTERIOLOGY

L to R: Wampler, Barry, Dr. Schwab





L to R: Wood, McLendon, Dr. Graham



L to R: Earley, Dr. Swanton, Farmer

PATHOLOGY

Our confidence in psychosomatics as the explanation for all disease was somewhat shaken when Drs. McPherson, Cromartie, Strong, and Manire introduced the germ theory in the bacteriology course. Concrete evidence for this theory was exhibited by several of us as a result of a laboratory mishap involving *Corynebacterium diphtheriae*. Also it was here that we practiced on each other the exsanguination technique called venipuncture which we were to use daily in the year to come. An added feature of this course were lectures in Preventive Medicine by Drs. Fleming and Richardson. Biostatistics was taught by Dr. Harry Smith and Parasitology by Drs. Larsh and Hendrick. Dr. Ham entertained and instructed us in Psychiatry twice a week during the year.

Properties and uses of drugs were taught to us in pharmacology in the spring quarter by Drs. Butler, Ellis, Czaky and Hill. Most of us felt that the highlight of this course was the laboratory periods during which we were able to observe the effects of drugs *in vivo*. It was during one such laboratory period that we did our first obstetrical procedure in delivering 11 puppies by section; a few have survived to the present time as proof of our native ability.

Our first experience as "little doctors" came in our course on physical diagnosis. Under Dr. Ike Taylor and his associates we had several preliminary sessions during which we practiced the techniques of physical diagnosis on each other. Finally the day arrived when we were allowed to take our long white coats and our little black bags and descend on the wards. After trying to examine the fundi in several glass eyes and trying to elicit reflexes in artificial legs we gradually gained some diagnostic ability.

Instruction in laboratory diagnosis was given by Drs. Palmer, Lawrason, Sessions and Welt. Introductory lectures given in Pediatrics, Obstetrics, and Surgery by members of the respective departments helped orient us for the clinical work in the third year. As our preclinical training was ended we eagerly looked forward to beginning our work on the wards during the third year.

L to R: McClean, Lloyd, Drs. Czaky and Ellis

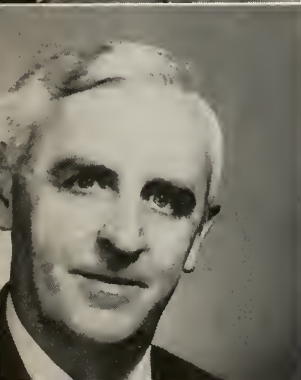
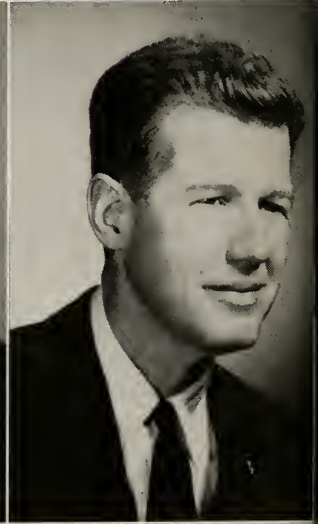
PHARMACOLOGY

L to R: Castelloe, Dr. Hill, Goley



REVIEW OF SYSTEMS

HEADS AND SPECIAL SENSES:





Opposite page, left to right:

First row—Dr. James C. Andrews, Biochemistry and Nutrition; Dr. Charles H. Burnett, Medicine; Dr. Thomas C. Butler, Pharmacology.

Second row—Dr. Kenneth M. Brinkhous, Pathology; Dr. Robert R. Cadmus, Director, North Carolina Memorial Hospital; Dr. Edward C. Curnen, Pediatrics.

Third row—Dr. John H. Ferguson, Physiology; Dr. William L. Fleming, Preventive Medicine; Dr. George C. Ham, Psychiatry.

Above, first row—Dr. Charles W. Hooker, Anatomy; Dr. D. A. MacPherson, Bacteriology; Dr. William P. Richardson, Assistant Dean for Continuation Education.

Second row—Dr. Robert A. Ross, Obstetrics and Gynecology; Dr. Nathan A. Womack, Surgery; Dr. Ernest H. Wood, Radiology.

FRONT COVER—Identification of Senior Class:

1st Row—left to right: Bob Farmer, Dewey Yarley, John Vassey, Francis Pepper, Bill Purcell, Bob Murray, Jack Evans, Jerry Bergmanis, Mark Roberts.

2nd Row: Bill Stafford, Joe Riddle, Jim Richards, John Lowder, Tom Payne, Stacy Duncan, John Hazelhurst, Tom Suther.

3rd Row: Charles Fowler, Larry Earley, Garland Wampler, Bill Wood, Leonard Woodall, Kip Payne, Jack McDaniels, Bill Barry, John Deyton.

STANDING 4th Row: Alex Goley, Milton Mann, Doyle Medders, Bob Holmes, Bill McLendon, Dick Boyd, Jack Ashley, Frank Green, Wade Brannan, Tom Castelloe, Leon Pittman, Lee Clark, Coleman Brantley, Peggy Duncan, Bill Ivey, Bill Easterling, Clyde Lloyd, Carey Perry; not pictured: Mickey Vitols, John Baggett, Doug Harrell, Bill Harris, Victor Herring, Dean Jones, Neill Lee, Otis Lowry, Marvin McCall, Malcolm McLean, Steve Noell, John Ormand, Adam Thorp, Jim Todd.



L to R: Lowry, Farmer, Dr. Sessions, McLendon



L to R: Ormand, Barry, Dr. Fleming, Boyd

MEDICINE

Considered one of the more exacting majors in the curriculum, our training in internal medicine has indeed been thorough. Our unofficial class song—"Exsanguination Blues"—truly recounts many of the foundations of this service in the third year.

Starting medicine in the third year on the wards, we were exposed to many unusual cases. The policy has been to study thoroughly every patient rather than to gloss over a greater number. This led to many panics on the daily attending staff rounds, but habits of exactness were surely learned.

Senior medicine has afforded us an opportunity to practice office-type medicine. Ambulatory patients referred from all over the state were worked up completely and if necessary followed later in specialty clinics, each student following his patients for his entire tenure of service. Pathology spread was equally great here as on the wards. Contacts made with referring physicians were continued through the mail.

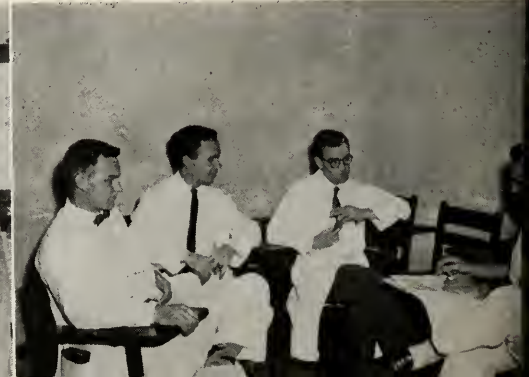
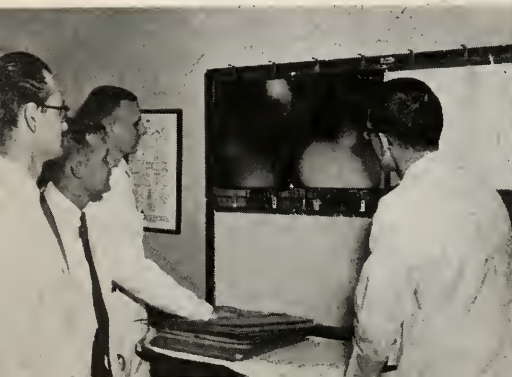
Another feature of senior medicine was the Home Care Service where each student kept a patient in the vicinity and followed his entire course. Other features of the service were student talks and papers. We learned to work with the Social Service, the Welfare Department and other public agencies and to coordinate our efforts for the patient's welfare.

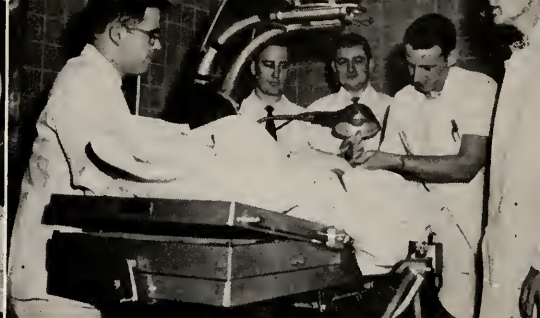
During our time in the medical clinic we were better able to expand our knowledge of radiological diagnostic aids. This, of course, increased the Department's dilemma in the search for lost film. The individual assistance always given us as we dripped "wet readings" over the floor was greatly appreciated. We learned to look awed as the Pros pointed out placental shadows, and our mouths got dry watching barium swallows.

L to R: Green, Dr. Fields, Lee, Harris

MEDICINE

L to R: Richards, T. Payne, Dr. Jones, Thorp





ANESTHESIOLOGY

to R: Dr. Grosskreutz, Baggett, Green, Evans

UROLOGY

L to R: Perry, Wood, Stafford, Drs. Adams and Bunce

SURGERY

A variety of new experiences in the surgical specialties were encountered. Doctors Grosskreutz, Davis and Sugioka were often seen hovering over the little "gas passers" as they shuffled around the anesthetized air ways of surgical patients.

For the first time we began to understand the physiology and pharmacology encountered everyday in anesthesiology. We learned, under skillful guidance, to be more at ease with unconscious patients.

From anesthesiology we moved to urology where we took up Dr. Bunce's motto "Free Flowing Stream". In the interest of this motto many ward rounds were necessary and never a dull moment or stone passed us by.

Surgery would not be complete without ophthalmology and there we spent some time deciding which end of the complicated instruments the patients fitted on. There were clinics with Dr. Byerly—and peering through lenses into the red reflexes or measuring bulb tension in glaucoma. The fundamentals of optics began to become somewhat more understandable.

Next we went to ENT and there with Dr. Fischer (father of the twins—T and A) we became acquainted with practical procedures in ENT and learned that one day we must all give up a suit of clothes for a *naso pharyngoscope*. Phrases such as "nurse, connect me to the power!" will not soon be forgotten.

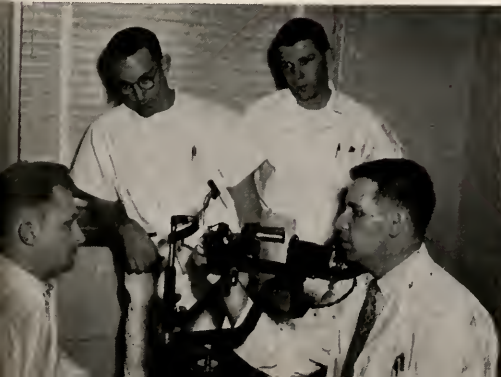
Deno Reed provided us with much good "listening material" and acquainted us with the need of this State for more effort in the field of audiology and speech therapy.

And if we had nothing else to do, there were 2 weeks of duty in the Emergency Room—and those frantic times when calling a resident meant interrupting the "Quarters TV Audience".

to R: Ivey, McCall, Murray
Dr. Byerly

SURGERY

L to R: Lee, Mr. Reed, Mrs. Dulla
Mrs. Humphrey, Earley





L to R: Roberts, Medders, Ashley, patient,
Dr. Chamberlin



L to R: Dr. Scott, Peggy and S. Duncan, Holmes,
patient

PEDIATRICS

Few of us will forget the time we spent on the pediatric wards caring for the "little people", learning that they would not break. Under the supervision of the pediatric neurologist, psychiatrist, cardiologist, endocrinologist, and "Coxsackie-ologist", complicated problems vanished, but not before they had been subjected to the "nose and throat culture, PPD, STS, CBC and urinalysis. These were the indispensable diagnostic tools over which we as students reigned. After diagnostic studies were completed, the student presented the case to the attending physician, and other members of the staff in conference. Once a week the "London Fog" precipitated over the entire conference—there was a rush for the back row seats. This was the day we could forget about periarthritis nodosa and concentrate on measles, constipation, etc.

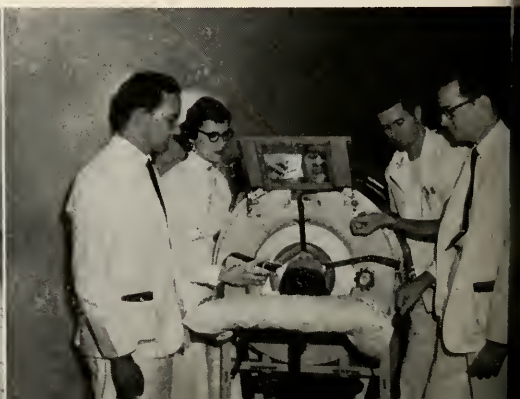
The fourth year submerged us into a clinic of screaming infants and anxious mothers. With the help of the nurses and Cris, we were able to stay dry and in a decent state of dress, and to keep some of our wits about us. One of the primary goals of the clinic experience was to teach us the process of growth and development. From what we learned, it became obvious that some of our patients had grown to the point where they should not have been there at all. Each day was set aside for various specialties, and pathologic processes. We also had a "well baby day" when everyone for miles around felt free to bring their problems to us.

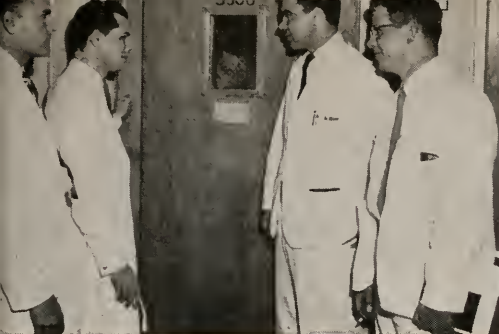
Not to be forgotten are the days when we "cooked formula" for Dr. Scott or drew blood in interest of those few who messed up their CO₂s by eating "the whole bottle of aspirin."

L to R: Wampler, Lowder, Dr. Summer, Pepper



L to R: Vassey, Mrs. Murray, Wampler, Yarley,
Brannon





L to R: Suther, Dr. Proctor, patient, Clark, Easterling



L to R: Dr. Vitols, patient, Dr. Bever, Pittman

PSYCHIATRY

In the future, we will often think about "those days" which we spent on psychiatry, both the pre-clinical and clinical services. The training in psychiatry began in the freshman year with island adventures and case histories followed by a year of lectures introducing us to "the master himself" and the basic principles of psychiatry.

In the junior year, feeling very much the disciple, we came in contact with patients with psychiatric illnesses and were able to observe and participate in the various forms of therapy; psychotherapy, physical therapy, and drug therapy. During this year, we also visited a State Hospital to see how the other half lived and also to dispell the idea that people had to be able to afford mental illness.

During our senior year we took up the shield of Freud and descended upon the clinic to work (with) out patients. After a few brief supportive sessions with Dr. Hargrove and Dr. Bever, we were left alone, with what few defenses we retained, to treat the mentally ill, many of whom had had more experience in psychotherapy than the student. There was always doubt in our minds as to who was getting the treatment. There were many other experiences on psychiatry which we will never forget such as the numerous diagnostic conferences, and the afflictions of social service and psychology. Leave us say that it was an interesting trip into the realm of the unconscious, the undiscover'd country from whose bourn some of our group may never return, while others feel they had rather bear those ills they have than fly to others that they know not of.

L to R: Lloyd, Dr. Shands, Deyton, Fowler



L to R: Dr. Harris, McDaniels, Jones, Harrell, Noell





L to R: Student Nurse, Castelloe, patient, Dr. Wienell, Mann, Herring



L to R: Purcell, Dr. Leary, Riddle, McClean

OB AND GYN

After having noted no male patients for 3 days we realized we were in OB-GYN. This round of our curriculum consisted only of Obstetrics clinic, Gynecology clinic, obstetrical ward patients and gynecological ward patients, seminars, tumor clinic, 2 weeks in Lumberton—and playing midwife to an organ irritated by pitocin, ergotrate and a soap suds enema.

We learned to masterfully stare at the ceiling with one digit always wondering what the other was up to. Nothing came as a surprise after noting in the tumor clinic how well the radiologist fitted in.

The seminars added much practical knowledge but nothing replaced information learned in the delivery room. Ward rounds provided an opportunity for gaining a broader knowledge of diagnosis and treatment as well as lectures on Wake Forest College.

There were never many spare moments in the clinic with 25 to 30 patients to be seen each day. Instruments and techniques not used in the third year soon became commonplace.

Other thoughts were laid aside as our interests were absorbed by Daddy Ross' masterful descriptions of the bulging abdomen. Dr. Leary's practicality and Dr. Palumbo's anaplastic thoughts rounded out the little territory not covered by Dr. Flowers—who continually reminded us of the pharmacology that we had forgotten. Dr. Donnelly's tips from the outside world were always helpful especially in enlightening us on the causes of maternal mortality as well as practical information in office OB-GYN.

L to R: Woodall, Todd, Dr. Kirkland, Lloyd



L to R: Hazelhurst, Bergmanis, Goley, Dr. Palumbo





"The Bull in the Pasture"



"Hogan's Lake"

SOCIAL HISTORY

Function: A synergistic interaction of gregarious individuals, who satisfy interpersonal needs, and, implementing available socioeconomic methods, provide themselves with a tonic or purgative as the mind deems necessary.

Student Faculty Day; with imbibitions increased, inhibitions released—and the lake afterwards—where cows and profs passed, both leaving part of themselves . . . Intramurals—an excuse to leave the lab early. Campus champs in the Dormitory division in '54 . . . Harry's Carols at Christmas . . . The social gatherings at the homes of the Dean, Dr. Wells and the medicine men, all greatly appreciated . . . vacations, at home, the beach, cabins, etc. . . The Wednesday and Friday Teas . . .



"Diuretics?"



"Physical Therapy Rounds!"



"A Surgical Specimen?"



"General Malaise"

SOCIAL HISTORY—Continued

The Phi Chi Chorus and odd numbered quartet-stars of stage and TV Brant Lake—a mission to Yankeeland . . . The Pool Table-5 and/or nine . . . and last but not least, the parties—any excuse for one was sufficient—the country club, Turnages, The School House, Turners, The Wishing Well, The Patio, The Elbow Room, etc., strickly 86 Proof . . . The moving finger writes, and having writ, moves on . . .

By a special vote of the Senior Class of 1956 the following residents have been selected as two, who through their teaching and example, have contributed substantially to our education. To them we express our grateful appreciation.



Dr. Charlie McAdams



Dr. Baxter Byerly

Alpha Kappa Kappa Fraternity

Beta Iota Chapter

President

Julian W. Selig, Jr.

Vice-Pres.

Ellis G. Aboud

Treasurer

Robert A. Farrell

Rec. Sec.

William R. Bullock

Corres. Sec.

Charles C. Hunter

Chaplain

Joseph J. Allen

The active members of Beta Iota Chapter of Alpha Kappa Kappa attempt to maintain the fraternal spirit and professional integrity established by our predecessors during the 33 years that it has been a part of the UNC School of Medicine.

Our best wishes go with the graduating class of 1956.

The Phi Chi Medical Fraternity

INCORPORATED

The Sigma Theta Chapter of Phi Chi Medical Fraternity was founded on March 17, 1905. Through the succeeding years the members of this chapter have striven to maintain those purposes for which Phi Chi stands—that is to promote a spirit of sociability and good fellowship among students of this medical college and to bring about a closer friendship among men pursuing the study and practice of medicine as a profession. We sincerely hope that we have succeeded.

To the graduating seniors the present members and officers of Phi Chi extend their personal good wishes during their internship and continued success during the years to follow.

Presiding Senior

Francis D. Pepper, Jr.

Presiding Junior

Richard V. Liles

Secretary

Thomas Craven

Treasurer

Charles T. Macy



A GROUP OF SENIOR MEDICAL WIVES

Front Row, l. to r., Caroline Riddle; Jo Anne Earley; Jeanne Evans, Vice Pres.; Clara Deyton, Sr. Cl. Repr.; Lorraine Vassey, President; Second Row, l. to r., Fran Lowery; Jo Anne Richards; Freda Lloyd; Mildred Ashley; Ruth Woodall; Helen Fowler; Third Row, l. to r., Edith Bergmanis; Virginia Wood; Ellen Easterling; Jane Purcell; Marjorie Murray; Mary Green; Fourth Row, l. to r., Jo Stafford; Jo Todd; Anne McLendon; Barbara Harris; Wynne McLean; Nancy Thorp. Missing, Wanda Barry; Betty Boyd; Edith Vitols; Shirley Hazelhurst; Peggy Duncan; Beverly McCall; Janice McDaniel; Evelyn Jones.

The organization has meetings once a month as well as socials, dances, teas, and charity work. There are 24 wives in the Freshman Class, 19 in the Sophomore Class, 25 in the Jr. Class and 31 in the Sr. Class, bringing the total to 99 Student Wives. In the Sr. Class, there are 14 Housewives; of the employed, 5 nurses, 5 teachers, 2 medical technicians, 2 clerical workers, 1 Dietician, 1 Physician and 1 medical student.

DIPLOMA

MEDICAL WIVES ORGANIZATION

To All to Whom These Letters Shall Come

Greetings

The Medical Wives Association of the University of North Carolina on the unanimous request of all concerned, and by virtue of creation, does grant to

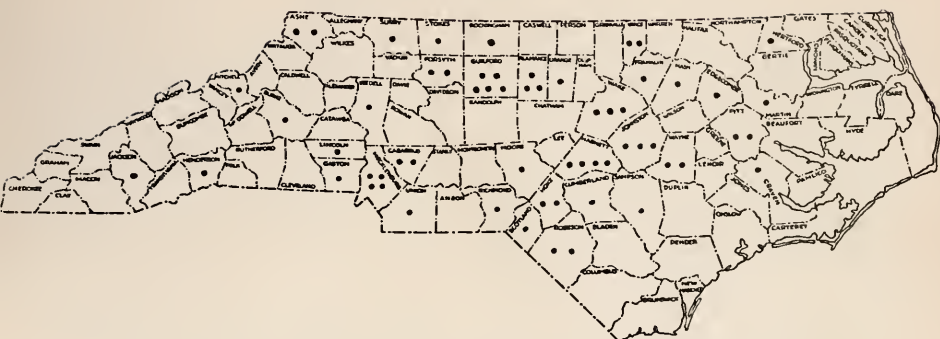
Rosie Ola

THIS DIPLOMA for persistently pursuing the art of being a Housewife and Mother, the art of earning money and then budgeting it and who has stood behind her husband from the years of Anatomy and Physiology through the services of Medicine, Surgery, Pediatrics, Obstetrics and Gynecology and Psychiatry. This degree is awarded for helping "little doctors" through the tortures of many exam weeks, for nights alone, for meals grown cold, and for a thousand and one things that only this recipient knows went into her husband's education. For these things the aforesaid organization does grant the degree of PhT. (putting him through).

Given at Chapel Hill, in the State of North Carolina, this.....day of....., in the year of our Lord, 19.....

Lorraine J. Vassey.....
President
Jeanne W. Johnson.....
Secretary

LAB DATA

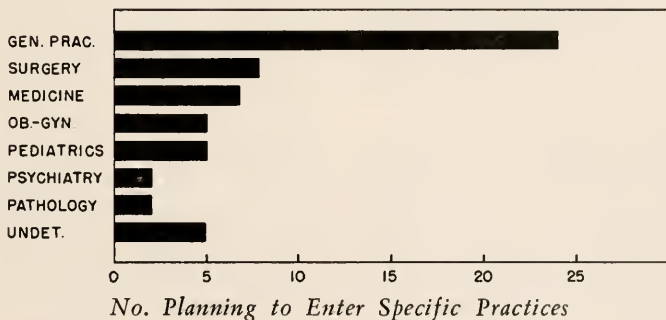
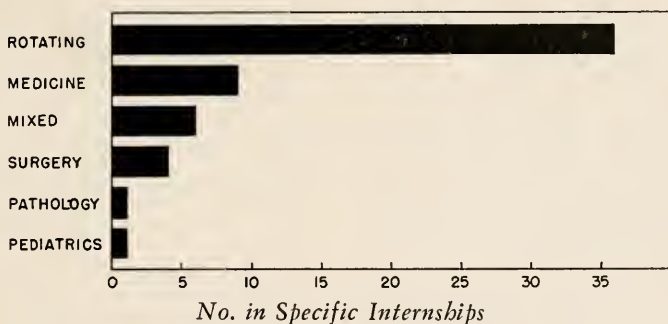


WHERE WE ARE FROM—BY COUNTIES

AGE RANGE 23-32 YEARS: MARRIED 32, SINGLE 27

VETERANS 9: AVERAGE UNDERGRAD. GRADE—91.76

UNDERGRAD. DEGREES A.B. 23, B.S. 14, S.B. 23



SCHOOL OF MEDICINE

Fourth Year Class 1955-56

GALE JACKSON ASHLEY—30 years of age from Warrensville, N. C. Received his A.B. in Chemistry at Emory and Henry College in 1951. Wife, Mildred; 2 children, Steve and Sandy. Phi Chi. After rotating internship at City Hospital in Winston-Salem, N.C., Jack plans to do general practice in Western North Carolina.

* * *

JOHN ROBERT BAGGETT, III—24 years of age from Lillington, N. C. Received his B.S. in Medicine at U.N.C. in 1953. Single Phi Chi at Grady Hospital, Atlanta, Ga., John will do a straight Medicine internship. After OB-GYN residency, he plans to practice in Eastern North Carolina.

* * *

CLAUDE ALTON BARNHILL—24 years of age from Stokes, N. C. Received his B.S. in Medicine at U.N.C. in 1953. A.K.K. Rotating internship at Memorial Mission Hospital in Asheville, N.C. After service and additional year in postgraduate work, he plans to do general practice in Eastern North Carolina which is near his home.

* * *

WILLIAM BARRY—27 years of age from Hamlet, North Carolina. Received his A.B. in Chemistry at U.N.C. in 1953. Wife, Wanda. After rotating internship at Watts Hospital in Durham, Bill plans to do general practice.

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JURIS BERGMANIS—26 years of age from Raleigh, N.C. Wife, Edith Sewell; one child, Mark. Received his B.A. from U.N.C. in 1952. Member A.K.K. Surgical internship at N.C. M.H. After service, he plans surgical residency and practice in North Carolina.

RICHARD ARMSTEAD BOYD—26 years of age from Statesville, N.C. Wife, Betty. AOA. Received his B.S. Pre-Medical degree at Davidson College in 1952. General Practice internship at Grady Memorial Hospital in Atlanta, Ga. After service, his plans are indefinite.

* * *

WADE MELBRY BRANNAN, JR.—25 years of age from Dunn, N. C. Received his B.S. in Medicine at U.N.C. in 1953. Single. A.K.K. and AOA. Wade plans a mixed internship at N.C.M.H. After service, general practice or residency in medicine and later practicing in Eastern North Carolina, probably Smithfield.

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COLEMAN BRANTLEY—25 years of age from Spring Hope, N.C. Single. Received his A.B. in Chemistry at U.N.C. in 1952. Phi Chi. Rotating internship at Cone Memorial Hospital in Greensboro, N.C. After one or two years of residency, Coleman plans to do general practice in North Carolina.

* * *

THOMAS EDISON CASTELLOE—24 years of age from Winterville, N. C. Received his B.A. from U.N.C. in 1952. Member of Phi Chi. Surgical internship at N.C.M.H. After service, he plans surgical residency. Future plans otherwise indefinite.

* * *

LEE ANDREWS CLARK, JR.—25 years of age from Everetts, N.C. Received his A.B. in Chemistry at U.N.C., 1952. Phi Chi, AOA. Single. Rotating internship at Cone Memorial Hospital, Greensboro, N.C. After service and general practice residency, Lee plans to practice in Eastern North Carolina.

SCHOOL OF MEDICINE
Fourth Year Class 1955-56
(Continued)

JOHN W. DEYTON, JR.—27 years of age from Spruce Pine, N.C. Wife, Clara. Received his B.A. from U.N.C. in 1951. Member A.K.K. Rotating general internship at U. S. Naval Hospital, Portsmouth, Va. After service and additional postgraduate studies, he plans general practice in Western North Carolina.

* * *

MARGARETE JOHNSON DUNCAN—27 years of age from Kingsport, Tenn. Received her B.S. in Business Administration at Wayne University, Detroit, Michigan. After rotating internship at Memorial Mission Hospital in Asheville, N.C., she will consider a residency in anesthesiology.

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STACY ALLEN DUNCAN, JR.—27 years of age from Benson, N.C. Wife, Margarete Johnson Duncan also of the Senior Class. Received his A.B. in Chemistry at U.N.C. in 1951. Rotating internship at Memorial Mission Hospital in Asheville, N.C. Later to practice in North Carolina but exact plans indefinite.

* * *

LAWRENCE ELLIOTT EARLY—25 years of age from Ahoskie, N. C. Received his B.S. in Medicine from U.N.C. in 1953. Wife, Joanne. Phi Chi and AOA. Straight medicine internship at Boston City Hospital, Boston, Mass., to be followed by medical residency.

* * *

WILLIAM EWART EASTERLING, JR.—25 years of age from Raleigh, N.C. Received his A.B. at Duke in 1952. Wife, Ellen; 2 sons, Bill and David. Phi Chi. Mixed internship at N.C.M.H. Later residency in OB-GYN with practice in Eastern North Carolina.

JOHN THOMAS EVANS—28 years of age from Sylva, N.C. Wife, Jeanne. Phi Chi. Received his A.B. in Science at Western Carolina College in 1952. Plans rotating internship at Watts and afterwards an ENT residency at McPherson's Hospital in Durham. Will probably practice in North Carolina.

* * *

ROBERT ARCHIE FARMER—24 years of age from West End, N.C. Single. Received his B.S. in Medicine at U.N.C. in 1953. Rotating internship at University of Virginia in Charlottesville, Va. After service, Bob will probably do general practice.

* * *

CHARLES WORTH FOWLER, III—25 years of age from Greensboro, N.C. Received his A.B. in Chemistry at U.N.C. in 1952. Wife, Helen. After internship, Charlie may enter an anesthesiology residency.

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ALEXANDER FAIRLEY GOLEY—25 years of age from Graham, N.C. Received his B.S. from Davidson in 1952. Member of Phi Chi, AOA. Medicine internship at Grace-New Haven Community Hospital in New Haven, Conn. After service, he will probably complete medicine residency and practice in piedmont North Carolina.

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FRANCIS WEATHERLY GREEN—24 years of age from Charlotte, N.C. Wife, Mary. Received his A.B. in Chemistry from U.N.C. in 1952. Plans straight medical internship at N.C.M.H. After service, Frank plans to do residency in internal medicine and practice in North Carolina.

SCHOOL OF MEDICINE
Fourth Year Class 1955-56
(Continued)

JASPER DOUGLAS HARRELL—24 years of age from Chapel Hill, N.C. Received his B.S. in Medicine at U.N.C. in 1953. Phi Chi. Single. Doug plans a rotating intership at Cone Memorial Hospital, Greensboro, N.C. After service an OB-GYN residency is planned. Further plans indefinite.

* * *

WILLIAM RIX HARRIS—25 years of age from Henderson, N.C. Wife, Barbara. Received his B.S. in Medicine, U.N.C. in 1953. Phi Chi, AOA. Bill plans to do a rotating internship at Colorado General Hospital in Denver. Further plans are indefinite.

* * *

JOHN LIVINGSTON HAZLEHURST, III—25 years of age from Wilmington, N.C. Wife, Shirley Cox; two children, Buffy and Jock. Received his B.A. at U.N.C. in 1952. Member Phi Chi, AOA. Surgical internship at Barnes Hospital, St. Louis, Mo. He plans surgical residency. Future plans are indefinite but is considering academic medicine.

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VICTOR GRAY HERRING, III—24 years of age from Goldsboro, N.C. Received B.S. from U.N.C. in 1953. Member of Phi Chi. Pediatric internship at N.C.M.H. After service plans pediatric residency and practice in Eastern North Carolina.

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ROBERT PEEL HOLMES—25 years of age from Mount Olive, N.C. Received his B.S. in Medicine at U.N.C. in 1953. Single. Phi Chi. Straight medicine internship at Grady Hospital, Atlanta, Georgia.

WILLIAM COY IVEY—26 years of age from Snow Camp, N.C. Single. Received his A.B. in Biology at Elon College in 1952. Rotating internship at Watts Hospital, Durham, N.C. After service, he plans to do general practice in a rural piedmont North Carolina Section.

* * *

DEAN CICERO JONES, JR.—25 years of age from Jefferson, N. C. Wife, Evelyn. Received his A.B. in Chemistry at U.N.C. in 1952. Rotating internship at Charlotte Memorial Hospital in Charlotte, N.C. After service, Dean plans to return home and do general practice.

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HENRY NEILL LEE, JR.—25 years of age from Lumberton, N.C. Received his A.B. in Chemistry at U.N.C. in 1952. Single. Phi Chi. Neill plans a rotating internship at Ohio State, later doing a medicine residency.

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CLYDE FRANKLIN LLOYD—31 years of age from Buies Creek, N.C. Wife, Freda Caudell; two children, Fred and Janet. Received B.A. at U.N.C. in 1952. Phi Chi. Rotating general internship at City Memorial Hospital in Winston-Salem, N.C. After 1 or 2 years postgraduate work, he plans general practice in Piedmont North Carolina.

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JOHN ALEXANDER LOWDER—24 years of age from Lincolnton, N. C. Received his B.S. in Medicine at U.N.C. in 1953. Phi Chi. Single. John plans a straight medicine internship at University of Alabama and later a medicine residency.

SCHOOL OF MEDICINE

Fourth Year Class 1955-56

(Continued)

OTIS MEGEL LOWRY—32 years of age from Pembroke, N.C. Wife, Frances Dale; one child, Jan. Received his B.S. in Chemistry at Lynchburg College. Member A.K.K. Plans to do a rotating internship at Watts Hospital in Durham, N. C. Afterwards general practice in N. C.

* * *

MARVIN MATHER McCALL, III—24 years of age from Charlotte, N. C. Wife, Beverly; 1 daughter, Erin. Phi Chi. Straight internship at Grady Hospital, Atlanta, Ga., after a residency in OB-GYN. He will probably practice in Charlotte.

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JACK PASCHAL McDANIEL—27 years of age from Fayetteville, N.C. Wife, Janice. Phi Chi. Received his A.B. in Zoology in 1949 at U.N.C. Will serve naval internship at Portsmouth Naval Hospital, Portsmouth, Va. Practice will probably be in North Carolina, either in OB or general practice.

* * *

MALCOLM McLEAN—26 years of age from Charlotte, N.C. Wife, Wynne Norman. Received his B.S. from Davidson in 1952. Phi Chi. Mixed internship at N.C.M.H. After service, he plans medicine or pediatric residency and practice in Charlotte, N.C.

* * *

WILLIAM WOODARD McLENDON—26 years of age from Greensboro, N.C. Received his A.B. in Chemistry at U.N.C. Wife, Ann; 1 daughter, Katherine. Phi Chi, AOA. Internship in pathology at the Presbyterian Hospital, New York, New York. After service and pathology residency, Bill plans to teach and do research.

MILTON BERNARD MANN—25 years of age from Raeford, N.C. Received his B.S. from U.N.C. in 1953. Rotating general internship at Watts Hospital, Durham, N.C. After service he will probably take some postgraduate work in pediatrics. Future plans otherwise uncertain.

* * *

JAMES DOYLE MEDDERS—27 years of age from Mount Holly, N.C. Received his B.S. in Medicine at U.N.C. in 1953. Single. Phi Chi. Doyle plans to do general practice in Gaston County after internship at Cone Memorial Hospital in Greensboro, N.C.

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ROBERT LOUIS MURRY—25 years of age from Raeford, N.C. Received B.S. in Pre-Medicine at Davidson in 1952. Wife, Marjorie. Phi Chi. After mixed internship at N.C.M.H. Bob plans to do residency in Medicine and will probably practice in North Carolina.

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JOHN STANFORD NOELL—30 years of age from Raleigh, N.C. Received his B.S. in Agricultural Biological Chemistry at N.C. State. Member A.K.K. Before Med School, Stan worked with State ABC Board. Plans to do a rotating internship at Charity Hospital in New Orleans, La. After internship, his plans are indefinite.

* * *

JOHN WILLIAM ORMAND, JR.—26 years of age from Monroe, N.C. Received his A.B. in Zoology at U.N.C. in 1952. Single. Phi Chi. Rotating internship at Cincinnati General Hospital. After service residency in OB-GYN. Practice probably will be in Union Co., North Carolina.

SCHOOL OF MEDICINE
Fourth Year Class 1955-56
(Continued)

CLIFTON GADBERRY PAYNE—24 years of age from Rural Hall, N.C. Received his B.S. from U.N.C. in 1953. Member Phi Chi. Rotating general internship at Moses H. Cone Memorial Hospital, Greensboro, N. C. After service, he plans general practice in Western North Carolina.

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THOMAS WILLIAM PAYNE—25 years of age from Greensboro, N.C. Received his B.S. in Medicine at U.N.C. in 1953. Phi Chi. Tom plans to marry Miss Jeannette Weaver in June. Rotating internship in Army at Fitzsimmons General Hospital, Denver, Colorado, and later, residency in pediatrics followed by practice in small North Carolina community.

* * *

FRANCIS DeWITT PEPPER, JR.—26 years of age from Winston-Salem, N.C. Received his B.S. in Pre-Medicine at Davidson in 1952. Phi Chi. Single. After rotating internship at Denver General Hospital in Colorado, he will probably enter a surgical residency and later practice in North Carolina.

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CAREY JONES PERRY—25 years of age from Louisburg, N.C. Received his B.S. in Medicine at U.N.C. in 1953. Single. Phi Chi. Rotating internship at Cone Memorial Hospital. He plans eventually to do general practice in North Carolina.

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GEORGE LEON PITTMAN—26 years of age from Selma, N.C. Received his B.S. in Pharmacy at U.N.C. in 1952. Single. Rotating internship in Navy at St. Albans Hospital, Long Island, N.Y. Leon probably will do a residency in OB-GYN, later practicing in Eastern North Carolina.

WILLIAM ROBERT PURCELL—25 years of age from Laurinburg, N.C. Wife, Jane McKeithan. Received his B.S. from Davidson in 1952. Phi Chi. Rotating general internship at Roper Hospital, Charleston, S.C. After service and some postgraduate work then general practice in Eastern North Carolina.

* * *

JAMES FRED RICHARDS, JR.—25 years of age from Coral Gables, Florida. Wife, Joann Ellen. Received his B.S. in Medicine in 1953 at U.N.C. Plans rotating internship at Georgia Baptist Hospital in Atlanta. Member of A.K.K. Following service, Jim's plans are uncertain.

* * *

J. IVERSON RIDDLE—25 years of age from Morganton, N.C. Wife, Caroline Huntley; two children, Ruth and Holly. Received his B.S. from U.N.C. in 1953. Rotating general internship at City Memorial Hospital, Winston-Salem, N.C. Presently planning psychiatric residency and practice in Morganton, N.C. after service requirements.

* * *

MARK WILLIAM ROBERTS—25 years of age from Madison, N.C. Received his A.B. in Chemistry at U.N.C. in 1952. Single. Phi Chi. After straight medicine internship at the University of Iowa, practice in or near Rockingham County.

* * *

WILLIE RANSOME STAFFORD, JR.—27 years of age from Burlington, N.C. Received his A.B. in Biology at Elon College at M.S. in Biochemistry at V.P.I. Wife, Jo Ann; son, Billy. Phi Chi. After rotating internship at Cone Memorial Hospital, general practice in North Carolina.

SCHOOL OF MEDICINE

Fourth Year Class 1955-56

(Continued)

THOMAS CORNELIUS SUTHER—27 years of age from Kannapolis, N.C. Received his B.S. in Pre-Medicine from Davidson in 1952. Phi Chi. Single. Rotating internship at Cone Memorial Hospital, Greensboro, N.C. After general practice residency, Tom plans to practice in Eastern North Carolina in partnership or with a group.

* * *

ADAM TREDWELL THORP, JR.—30 years of age from Rocky Mount, N.C. Wife, Nancy; 2 children, Adam III and Dan. Phi Chi, AOA. After Navy rotating internship at Bethesda Naval Hospital, Bethesda, Maryland, Adam will probably do a surgical residency. Later he plans to practice in or near Rocky Mount.

* * *

JAMES GORDON TODD, JR.—26 years of age from Charlotte, N.C. Wife, Joanne Smith; one child, Suzan. Received his A.B. at Lenoir Rhyne, in 1952. Member A.K.K. Phi Beta Chi. Medicine internship at N.C.M.H. After service probably will do pathology residency and practice in Western North Carolina.

* * *

JOHN WALTER VASSEY—30 years of age from Brevard, N.C. Wife, Lorraine. Received his B.S. in Chemistry at U.N.C. in 1952. Member Phi Chi. Plans to do an internship at the City Hospital in Winston-Salem, N.C. After internship, John will do general practice in Eastern North Carolina.

* * *

MINTAUTS MICKEY VITOLS—34 years of age from Newton Grove, N.C. Premedical education in Liepaja State College, Latvia. Graduate of Medical School of University Ham-

burg, Germany. Entered U.S.A. in 1949. Wife, Edith, who is in general practice in Newton Grove. Senior physician, State Hospital, Butner, N.C., 6 years. Plans residency and research in psychosomatic medicine after service.

* * *

GARLAND EARHART WAMPLER—25 years of age from High Point, N.C. Received his B.S. in General Science from High Point College in 1952. In June, Garland plans to marry Miss Mary Ann Burrus, afterwards a 2-year rotating internship at City Memorial Hospital, Winston-Salem, N.C., then general practice.

* * *

WILLIAM BAINSTER WOOD—25 years of age from Greensboro, N.C. Wife, Virginia; son, Chip. Received his B.S. in Medicine from U.N.C. in 1953. After straight medicine internship at N.C.M.H. and residency in medicine, Bill plans to practice in Western North Carolina.

* * *

LEONARD SCHMICK WOODALL—26 years of age from Smithfield, N.C. Wife, Ruth Cooley. Received his B.S. from U.N.C. in 1953. Member Phi Chi. Surgical internship at N.C. M.H. After service, he plans surgical residency and practice in Eastern North Carolina.

* * *

DEWEY HOBSON YARLEY—25 years of age from Coats, N.C. Received his B.S. in Medicine at U.N.C. in 1953. A.K.K. Dewey will marry Miss Ann Bell in June. Rotating internship at City Memorial Hospital, Winston-Salem, N.C. After service, general practice probably in Coats, N.C.

The Role of the Ground Substance

In the Etiology of Renal Calculi

Urine is a buffered, ionic and molecular solution composed of particles varying in size and chemistry from hydrogen ions to organic suspensoids of molecular weights up to 7,000,000. (2) Investigators of the problem of renal stone formation and growth are interested in the factors concerned in maintaining this concentrated biologic solution in a soluble state, thereby precluding the precipitation and growth of a stone; or conversely, in the presence of lithiasis, one would seek to determine the way in which the mechanisms or influences which normally afford solubility have been altered.

One approach to this question would be an attempt to elucidate the possible role of the body's ground substances in the pathogenesis of renal stones.

The characteristic component of the ground substance(s) is a glycoprotein (a protein containing a carbohydrate moiety as an integral part of its structure). It is believed that the ground substance exists in a polymerized state, the consistency of which may vary according to the degree of polymerization. Even in the normal state and maintaining a constant consistency, the ground substance is being continually removed and replaced, the removal by depolymerization and absorption of smaller molecular aggregates into the blood and lymph; the replacement through secretion, possibly by fibroblasts. (5)

With a knowledge of these principles Butt has attempted to prevent or reverse the growth of renal stones by injecting hyaluronidase subcutaneously. It acts upon the hyaluronic acid in the intercellular ground substance so that the substrate is depolymerized. Soon after injection excess hyaluronic acid (which Butt considers a "protective colloid") is excreted in the urine and is said to increase the solubility of all urinary components. (7)

Such a "protective colloid" is thought to possess a large surface area of unsaturated ions to which can be absorbed those ions

This paper is a condensation of the midwinter prize essay won by Mr. Robert Holmes of the class of 1956.

dispersed in the surrounding medium which carry an electric charge of opposite sign, rendering them unavailable for precipitation. (3)

In support of his therapeutic use of hyaluronidase in patients with renal calculi, Butt studied the urine of various groups of people for its "colloidal" activity. He shows colloidal activity to be higher: 1. in Negroes than in Whites; 2. in pregnant than in non-pregnant women; 3. higher in women generally than in men; and 4. in patients without stones than in patients with stones. Since the observed incidence of stone is lower in those groups found to have a higher degree of "colloidal" activity, it seems that a high degree of "colloidal" activity is protective with respect to stone formation. Next, Butt determined the "colloidal" activity in the urine of a series of subjects, after which these subjects were given hyaluronidase. Eighty-two percent of the subjects so treated showed a significant increase in "colloidal" activity, lasting from 10 minutes to more than 96 hours. (3)

The work and conclusions of Butt and his co-workers have met tremendous opposition, largely because of: 1. the very unconvincing therapeutic result achieved by those who have given hyaluronidase (7, 8); and 2. the inability of others to duplicate his findings which correlate the numbers of "colloidal" particles with the various categories of individuals as regards sex, race, pregnancy, and stone-forming tendency. (7, 2)

Butt uses the determination of the concentration of glucosamine and glucuronic acid in the urine as a reflection of the amount of hyaluronic acid in the urine and of its effectiveness in rendering ions (such as Ca^{++}) soluble, because of glucosamine and glucuronic acid are break-down products of hyaluronic acid. Actually, these compounds themselves are able to bind calcium in a soluble form. It would seem less misleading to think of hyaluronic acid, glucosamine, and glucuronic acid as acting as chelating agents rather than as being "colloids," for they are not the type particle most chemists think of as colloids.

It is known that a ground substance with staining properties similar to bone matrix is found in all types of calcific renal stones except calcium oxalate stones. Therefore, it seems possible that matrix of some urinary lime stones may serve as the initiator and orienter of crystals as matrix does in the bones. (6) Thus, rather than approach stone formation from the standpoint of a deficit

of "protective" ground substance, some investigators are impressed by the possibility of the ground substance playing a positive role in renal lithiasis.

Such a group is Boyce, Garvey and Norfleet, who regard urinary colloids as those serum colloids that are filtered and as those which are products of epithelial excretion—largely composed of "uromucoid." This group's efforts are directed toward finding a "calcifiable matrix" in the urine of patients who are forming calcigerous urinary stones.

By dialysis they isolated a non-diffusible colloidal gel from the urine of normal patients and from patients who were forming calcigerous stones. Upon subsequent exposure to normal urine in serial samples, layers of a crystalline substance containing calcium and phosphate developed within the gel recovered from the stone-formers, but no crystalline deposit occurred in the colloidal residue from normal subjects. (2)

Also, a mucoprotein peculiar to the urine of patients with calculous disease was isolated electrophoretically. Suspension of this mucoprotein in calcifying solutions resulted in a precipitation of a calcium-mucoprotein chelate. (2)

These studies suggest that the urine of patients with calcigerous stones does contain a "calcifiable matrix" which is not found in normal urine.

A mucoprotein, referred to as uromucoid, was found in the urine of both normal subjects and of patients with calculous disease. This substance did not produce any appreciable chelation of calcium until its molecule was disrupted by being placed in a buffer solution of pH 12.3. This modified form of uromucoid binds calcium to form a relatively insoluble calcium—mucoprotein complex. (2)

Thus, it is possible that the uromucoid present in all urine may be activated and become the "calcifiable matrix" found only in the urine of patients with calculous disease.

The mucoproteins of urine are characterized by having the chelate rings attached to a protein moiety, and the calcium chelates thus formed tend to be highly insoluble macromolecules. An active chelate compound of this type can chelate calcium from urine that contains even minimal concentrations of calcium. If this complex remains stationary a very high local concentration of calcium may be built up. Changes in the chemical environment such as a shift in the pH may cause the chelate ring to release

calcium with subsequent formation of crystalline calcium compounds. Continuation of this process may lead to formation of successive layers of crystals forming on pre-existing crystal rather than remaining confined to the mucoprotein, giving rise to a layered calculus, with growth taking place at the surface of the crystalline layer and at the surface of the mucoprotein cover. (2)

In spite of its appeal, this line of investigation has aspects that are still speculative and hypothetical. The burden of proof seems to lie with those who believe that the matrix of stones is an active participant in the stone's formation and is not simply ensnared in the process of precipitation of insoluble salts. One may also wonder if the "altered mucoproteins" are not produced as a result of the presence of a stone rather than having actually contributed to its formation.

If, however, the metal chelate theory is valid the next most fundamental problem that arises is the determination of those influences which effect the predisposing alteration of the ground substance's proteins.

One such influence, deals with the action of the parathormone in rats. This was demonstrated by Engel (4), who presents histochemical evidence of depolymerization of the glycoprotein constituents of bone and epiphysial cartilage following the administration of parathyroid extract. This was associated with a rise in serum mucoprotein level which appeared to be related to the degree of bone change and roughly to the dose of parathyroid extract. Very large doses of hormone caused severe renal damage, notably blocking of tubules by mucoprotein, which sometimes was noted to contain phosphate-carbonate as a calcium salt.

Equally interesting is the work of Baker (1) in which he gives parathormone to rats and observed changes in the ground substance of the kidney tubules. Although intra-tubular calcification occurred it always began in ground matrix. Increases in serum calcium equal to that produced by parathormone was induced but failed to produce calcification. Renal tissue undergoing hypertrophy (characterized by depolymerization of ground substance) showed significantly greater calcium deposition than did normal renal tissue in animals receiving the same amount of hormone. All of this correlates with the work of Boyce and the classical work of Randall.

SUMMARY

The nature of the ground substance is reviewed. Three current ideas concerning the relationship between alteration of ground substance and the etiology of renal calculi are discussed. The first of these ideas deals with the preventive action of by-products of depolymerized ground substance components. The second concept relates altered mucoproteins to the pathogenesis of stones, and the third demonstrates the possible role of parathormone in effecting such alteration.

Weaknesses in these theories and experiments are mentioned. It is not suggested that the entire explanation of the etiology of renal calculi does, or will, lie wholly within the realm of ground substance changes.

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Dulce Est Desipere In Loco*

BY FREDERICK CREIGHTON WELLMAN, M.D.

ON BEING STRICTLY UP-TO-DATE

When I first went to Africa
They told me the latest opinion
Of the School of Tropical Medicine,
That water, especially from a swamp,
Should be boiled before drinking.
Since Hippocrates advised this
And Galen recommended it,
As well as Vitruvius,
And Aristotle mentions it,
While Pliny the Elder spoke of it
As generally admitted in his day,
And many later writers
Up to the thirteenth century
All agree on the subject,
In fact Hildegard of Bingen**
In the twelfth century
Strongly insists on it,
I decided to take the advice
Of the School of Tropical Medicine.

* "It's a good thing to have a little fun once in a while." (Author's very free translation!)

** Vide the works of Hippocrates, Galen and Aristotle, and especially Vitruvius, Bk. VIII, ch. 2-4, "Various Properties of Different Waters," also Pliny, *Hist. Nat.*, Bk. XXXI, ch. 21-23, "On the Wholesomeness of Waters," cf. *Medicina Plinii*, likewise Hildegard, *Causae et Curae*, I, 25, in which we read that "swamp water should always be boiled, that good well water is better to drink than spring water and spring water than river water, which too should be boiled and allowed to cool before drinking." (Trans. Thorndyke)

IN DISPRAISE OF THE WISE MEN OF GOTHAM

Night after night
From the musty old tomes
I read out to him the wondrous flights
Of ancient poetry and wisdom
From the greatest minds of all time.
When we talked about it afterward
All he remembered was this:
Alexander described a submarine,
Niceta described the action of the intestines,*
Neckam described the mariner's compass,

* *Apud Pseud.-Clem. (Tr. Lat. Recognitiones, VIII. 31. q. v.)*

Dr. Wellman founded one of the American hospitals in West Central Africa and subsequently taught in several of our universities. He is now retired and living in Chapel Hill.

Thomas of Cantimpre described modern plumbing**
 And Roger Bacon described a motor car.
 So I took him into the bathroom
 And drowned him in the tub
 And went on reading by myself.

- ** He also touched on the hygienic, as well as esthetic, benefits thereof. Thomas was an admiring pupil of Albertus Magnus (1193-1280). With his treatise, *De Naturis Rerum*, Thomas may have anticipated some of his master's writings. Thomas gathered data and, more than most scholars of his time, was interested in realities, including disease prevention, as well as moralizing.

STALE NEWS

The physicist discoursed on sound
 And told me all about it,
 How modern scientists had found
 Its waves and none could doubt it.
 Galen declares it spreads in waves*
 From its source out beyond;
 Vitruvius states it spreads in waves**
 Like eddies in a pond.

- * Galen was born about 129 A.D. at Pergamum, Asia Minor, where he practiced medicine until sometime after 200 A.D. He possessed a very wide knowledge of the science of his day outside the field of medicine.

- ** Vitruvius, the first great Roman architect, flourished just at the beginnings of the Empire, under Julius and Augustus Caesar. His remark above mentioned refers to the acoustics of a theatre. Boethius (A.D. 480-524) and Adelard of Bath (circa 1100) use almost the same words.

WE LIVE IN SUCH AN ENLIGHTENED AGE

The profound scientific article
 In a current serious magazine
 Speaks of the sun, moon, light and meteorology
 In their most modern conceptions.
 The writer probably didn't know
 That Basil of Alexandria*
 Nearly sixteen hundred years ago
 Adduced numerous proofs
 Of the immense size of the sun and moon
 And said, "It needs not the space
 Of a moment for light to pass through the ether,"
 And that "Sea water is the source
 Of all the moisture of the earth."

- * The quotations in the last four lines of the above are from H. VI, 9, II, 11 and IV, 6 of the *Hexaemeron* of Basil, A.D. 329-379. (Trans. R. H. Charles) Adelard of Bath, early in the twelfth century, announced that light passes from the eye to the brain through nerves "which the Greeks call optic," and enunciated the law of the indestructibility of matter in the universe in the following words: "Nothing in this world of sense ever perishes utterly, or is less today than when it was created. If any part is dissolved from one union, it does not perish but is joined to some other group." *Quest. Nat.*, cap. IV. (Tr. Gollancz) Hugo of St. Victor, also in the twelfth century, affirmed the same thing: "Nothing in the universe ever dies because no essence perishes." In fact this discovery goes back at least as far as Plotinus, 204-270 A.D.

A Fresh Approach to Medical Problems Through Exchange Professorships

A program of brief "exchange professorships" has been set up at Chapel Hill and is now well along in its fourth year of operation. Latest visitor on the schedule was Dr. A. Baird

Hastings, head of the Department of Biological Chemistry at Harvard Medical School.

The UNC visitor's schedule usually includes hospital rounds with the third and fourth year students, interns, and residents; a pathological conference, and special rounds in the guest's



Dr. Charles Burnett, Dr. Robert F. Loeb, Professor of Medicine at Columbia University, New York City, and Dr. Marion Dugdale confer at the bedside of a patient at N. C. Memorial Hospital.

particular field. Informal conferences and free question-and-answer periods greatly enhance the value of such experiences for the students and staff.

According to Dr. Burnett, Chairman of the Department of Medicine, U.N.C. School of Medicine, these exchange professorships are "an extremely effective way of presenting different points of view; they increase the interest of the



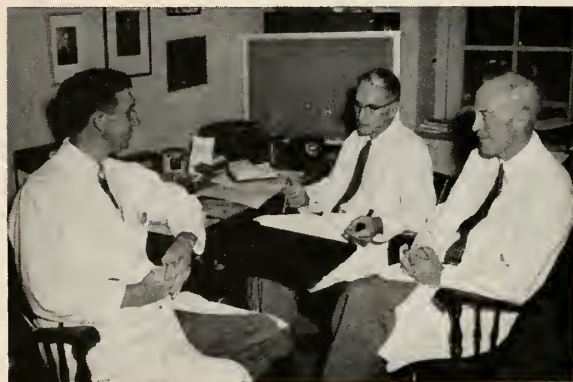
Dr. A. Baird Hastings, Professor of Biological Chemistry, Harvard Medical School.

students and staff in fundamental subjects. The outsider's point of view is always beneficial."

Among the recent professors from elsewhere was Dr. Robert F. Loeb, Professor of Medicine at Columbia University, New York City. Dr. Loeb is the co-editor of Cecil and Loeb's "Textbook of Medicine," widely used in medical schools throughout the United States.

On February 10 the Medical School had as guest professor Dr. William B. Castle, Professor of Medicine at Harvard. Dr. Castle is also Director of the Thorndike Memorial Laboratory at Boston City Hospital, where he continues research in the anemias.

Another recent visitor was Dr. J. Roswell Gallagher, Chief of the Adolescent Unit at Boston Children's Hospital and Assist-



Dr. Thomas Farmer, Professor of Neurology at UNC, Dr. Charles Burnett, and Dr. Derek Denny-Brown, Professor of Neurology at Harvard Medical School.

ant Clinical Professor of Pediatrics at Harvard Medical School. He was in Chapel Hill March 6 for the Fourth Annual Program in General Medicine and made a fascinating presentation of the emotional and physical problems of the teenager.

In October, 1955, Dr. Derek Denny-Brown, who is the James Jackson Putnam Professor of Neurology at Harvard Medical School, visited Chapel Hill for three days. He spoke on Positive and Negative Aspects of Cerebral Motor Function.

It is anticipated that this valuable program will be continued and expanded in the future.

A Continuation of the

Panel On Humane Letters And Human Illness

PROFESSOR STERLING A. STOUDEMIRE, Head
Department of Romance Languages, *Presiding*

Moderator: PROFESSOR EVERETT W. HALL, Philosophy

Participants:

PROFESSOR U. T. HOLMES, Romance Philology

PROFESSOR A. C. HOWELL, English

PROFESSOR S. E. LEAVITT, Spanish

PROFESSOR C. P. LYONS, English

PROFESSOR B. L. ULLMAN, Classics

DOCTOR NATHAN A. WOMACK, Surgery

Professor Hall

Professor Ullman, Professor Lyons has given some moving examples of the way in which recent contemporary poetry touches us as human beings. What about the dead languages? What about Latin and the older literature. Have Horace and Vergil anything to teach us—and particularly to teach medical men, do you think?

Professor Ullman

What do you mean, dead languages!

Professor Hall

Well, I was carrying out a medical metaphor, you see.

Professor Ullman

All right—carrying out, you know, is a Latin phrase for taking a man out for burial. So your words are very appropriate!

I'd like to say first something to two of Dr. WOMACK's points. He spoke about Medical Hill and Chapel Hill, I look upon the Collis Medicinæ and the Collis Capellæ as twin peaks of a great

This is the final installment of a panel on Humane Letters and Human Illness presented on the occasion of the celebration of the 75th Anniversary of Medical Education here at the University in April, 1955.

mountain, and it reminds me that the president of a neighboring university said some time ago that something had to be done about his institution because he had this great mountain—meaning the University of North Carolina—just below him, and you can imagine what institution that was.

By the way, Dr. Womack had a hard time being detrimental to our case here. I could just see him mentally shivering when he got out some of these statements against the humanities. He's such a humanist himself he finds it difficult to challenge us. But on this one point that he mentioned at the end—which he thought was very daring—about teaching some medicine, in a way, to the college student—I think that would be very good if it's the right kind of medicine. I remember very well in my elementary school days a course in physiology that I went through, which was a course in the evil effects of alcohol and nothing else!

Dr. Womack

Did you pass the course?

Dr. Ullman

I take refuge behind the 5th Amendment.

Well, to get down to my more formal remarks, Cicero made the point that the ideal orator should know everything. Of course no one can know everything, especially nowadays, but we should expect wide knowledge on the part of some professional groups such as teachers and physicians. Plumbers are very useful citizens, and I could wish there were more of them here in Chapel Hill. But we do not expect them to be proficient except with pipes and such.

The physician, too, is sometimes a kind of plumber. But he deals with human beings, not with machinery. We expect him to be a leader in the community. (You see, I'm just repeating what Professor Howell said; and I expect as we go along we'll be repeating one another steadily.) We expect him to be a leader in the community—one whom the patient can look up to and trust. He must be a scientist, of course, but he must be more than that. It would be a calamity if he were as naive as certain other scientists have been in recent years, and I wish I could take time to vent my spleen on that subject. He will, of course, learn much from his close contact with human beings, who are apt to show their real natures during illness. But it will help him greatly to have a broad liberal education to start with—to know history and

philosophy, languages and literature, art and music, and to keep up some of those interests in later life. Speaking specifically of literatures, especially those that I represent, I shall put it this way. Great writers have often been close observers of human nature and have a knack for clear expression of ideas that sometimes elude us. Another point is this: the older the literature the more we are impressed by the sameness of human nature throughout the ages. And we all need to know human nature, the physician more so than some of the rest of us. As Terence put it in the familiar phrase, "Homo sum; humani nihil a me alienum puto," "I'm a human being; I consider nothing human foreign to my interest." The physician has to live with himself as well as with others. We're all human, we all make mistakes. The physician's mistakes are more apparent than some which the rest of us make. But even when he makes no mistakes he has his failures. He should not become callous about them, nor should he take them too much to heart. He may get comfort from religion, music, from reading, and in many other ways, and he will have to convey that comfort to others. The ancients had a regular literature of consolation, which conformed to fixed techniques. This sort of thing leaves us cold, but the basic need is still there. Literature, including the Bible, will often fill the need. These are obvious and trite remarks. The point is that the physician must know people and how to deal with them.

In the last generation or two, many physicians have become interested in the history of their profession. In the document of Dr. Womack to which Professor Lyons referred, Dr. Womack quoted the great Greek physician, Hippocrates. You will recall that physicians still take the Hippocratic oath. Dr. Womack used the term "golden mean," which is an ancient expression, one of my favorites, incidentally, put in its finest form by Horace, whom you mentioned, Professor Hall. Horace's phrase "aurea mediocritas," which has given me personally a sort of way of life.

Professor Hall

Why don't you mention Aristotle?

Professor Ullman

Aristotle is the one who originated it, but Horace put it in the most poetic and appropriate form. With Aristotle it's not golden; it's just the mean. That illustrates Professor Lyons' point about the poets. They can always say things better.

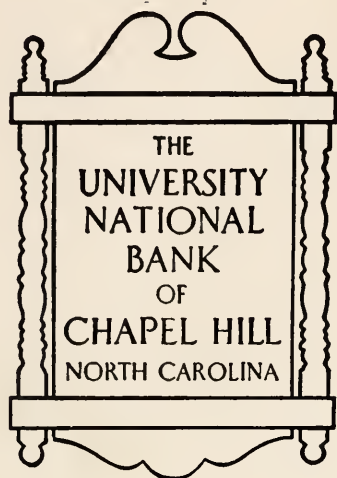
It seems to me the knowledge of the past and the knowledge of other people, past and present, is essential to any education—whether it is that of a physician or anybody else. A knowledge of people around us is, so to speak, two-dimensional. Acquaintance with distant and foreign peoples and their ways and speech is three-dimensional. Familiarity with the past adds a fourth dimension.

The close relation of mental to physical condition has become familiar in recent years, but the doctrine is in part ancient. Juvenal's famous phrase, "*mens sana in corpore sano*," "a sound mind in a sound body," is familiar to all of us. Here again Juvenal is simply a poet who has put the idea in its final form, but it was familiar long before that among Greeks and Romans.

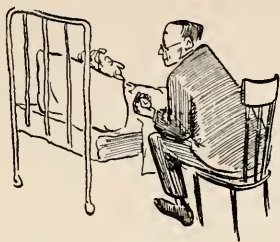
It was the Stoic philosophy that preached the similarity and relationship of mental, even moral health, to physical health. This philosophy penetrated deeply into later Greek and most Roman literature, especially such writers as Cicero and Seneca and Marcus Aurelius. It affected Christianity as well. Its influence and its significance are indicated by our word Stoicism, a quality that persons suffering from physical and emotional troubles need to cultivate, and which physicians can perhaps help instill.

The physician should be a leader of men, as I have said. He therefore should know, more than most men, that western culture by which we have been molded. The chief elements in this culture come from Palestine, with its Judaism and Christianity, from Greece, with its philosophy and literature, from Rome, with its literature and its idea of order. These elements, fused together in the Middle Ages, are the solid substructure of our civilization. It is not without significance that in early North Carolina, and elsewhere in our nation, we find such combinations of Biblical and classical words as Zion and Parnassus.

Let me close by quoting Winston Churchill, once more, as Dr. Womack quoted him: "I must admit," he says, "that as I have grown older I have changed my mind about the study of the classics. I never liked them when at school. I did not yield responsively at all to the many urgent and sometimes painful appeals which were made to me to grasp the full charms and precision of the classical languages. But it seems to me that, if the teaching of the classics dies out in Europe and the modern world, and with it the knowledge of Greek and Roman literature and the vast picture presented by that long epoch of time, then a great unifying force in Europe might easily become extinct."



The Sign
Of a Good Place
To Bank
In Chapel Hill



ALUMNI NOTES

In an effort to get news of alumni activities, John R. Chambliss ('43) of the Bulletin Editorial Committee sent cards to all members of the classes of 1942, March 1943, and December 1943 requesting information. We were pleased to have the following replies:

CLASS OF 1942

Frederick A. (Ted) Blount, 2540 Forest Drive, Winston-Salem, N. C. M.D., Pennsylvania, December, 1943. Interned, Roosevelt Hospital, New York. USNR, 1944-46. Department of Pharmacology, UNC, 1946. Children's Hospital in Philadelphia, 1947-49. Private practice in pediatrics, Winston-Salem, since 1949. Assistant in Clinical Pediatrics, Bowman Gray School of Medicine; Chief of Pediatrics, City Memorial Hospital, Winston-Salem. Married, three children—two boys (11 and 8) and 1 girl (3).

O. Watts Booth, 87 Twenty-Ninth Street, Newport News, Virginia, M.D., Duke, 1944. Interned, Mountinside Hospital, Montclair, N. J. AUS, 1944-46; all service in Station or General Hospital in the United States. Resident in Pediatrics, Duke Hospital 1946-47, Grady Hospital 1947-48. Fellow, American Academy of Pediatrics, 1953. Private practice of pediatrics in Newport News since 1948. Married, two children—boys (8 and 4).

James E. Davis, 1200 Broad Street, Durham, N. C. M.D., Pennsylvania,

December 1943. Residency, New York Hospital. Practicing general and thoracic surgery. Clinical Instructor of Surgery, U.N.C. Married.

Jerry W. Gavce, Kaiser Hospital, Oakland, California. M.D., University of California, 1944. Interned at Metropolitan Hospital, New York. Captain, Medical Corps, AUS, 1945-46. Resident in Medicine, V.A. Hospital, Van Nuys, California, 1947-49. Resident in Medicine, American Hospital in Paris, 1950-51. Staff physician, V.A. Hospital, Long Beach, California, 1951-53. Staff Physician in Internal Medicine, Kaiser Foundation since 1953. Certified by American Board of Internal Medicine in 1953.

Hunter Heath, currently taking postgraduate course in "Cardiovascular Diseases" at Harvard Medical School. M.D., McGill, 1944. Interned at Montreal General Hospital, 1944-45. U. S. Navy, 1945-47. Did general practice in Chinquapin, N. C., 1947-55.

Richard E. Hedrick, 857 West 5th Street, Winston-Salem, N. C. Interned at City Memorial Hospital, Winston-Salem; also surgical residency. Now doing Ob-Gyn and general surgery. Married, three children (Marty, 9; Charlene, 6; Dicky, 2). Residence: 1999 Georgia Avenue.

John F. (Jack) Lynch, Jr., 641 North Main Street, High Point, N. C. M.D., Jefferson, 1944. Rotating internship, Atlantic City Hospital,

N. J. Spent two years in the Navy in the Pacific. Had a year at St. Louis Children's Hospital and a year at Philadelphia Children's Hospital. American Board of Pediatrics, 1952. In practice of pediatrics in High Point. Married Betty Simmons (UNC '46) of Rocky Mount, N. C., in 1950. Have three children: Johnny, 5; Logan, 3; Sammy 1.

John McDevitt, at present private practice in psychoanalysis and psychiatry; research at Child Study Center, Yale University School of Medicine, New Haven. M.D., Pennsylvania. Interned at Bellevue Hospital. Psychiatry in the Army for two years. Residency in psychiatry at Menninger Foundation in Topeka for two years. Private practice and training in psychoanalysis, New York Psychoanalytic Institute, New York City, since 1949; training complete in 1954.

Robert A. McLemore, 1815 Crescent Drive, Springfield, Ohio. M.D., Jefferson, 1944. Interned at Jefferson also. Spent two years in Navy. University of Pennsylvania Graduate School of Medicine, 1946-47. Residency in surgery, St. Luke's Hospital in Bethlehem, Pennsylvania, 1947-50. Board certified in Surgery, 1951; American College of Surgeons, 1952. In practice of Surgery in Springfield since 1950. Married Marjorie Harcourt, 1944; have three children (Stephen, 8; Nancy, 6; William, 2).

John H. Miller, Box 431, Bartow, Florida. M.D., Emory University, 1943. Internship, Jacksonville Naval Hospital, Jacksonville, Florida. Active duty with U. S. Navy. Assistant residency in surgery, Long Memorial Hospital in Atlanta; resident in general practice, Polk County Hospital, Bartow, Florida. Private practice in general practice alone, Bartow, 1948-55. Formed partnership with four others to do general practice on May

1, 1955. Married Betty Kennedy of Grovetown, Georgia, 1944; have one son.

George W. Plonk, Professional Building, Raleigh, N. C., M.D., Jefferson, 1944. Interned at Lankenau Hospital in Philadelphia. Medical Corps, AUS, 1944-47; one year of this time was in Italy with the Army of Occupation. Did 19 months of general practice in Murphy, N. C., 1947-48. Surgical residency, Lankenau Hospital, and postgraduate course in surgery, University of Pennsylvania Graduate School, 1948-52. Diplomate, American Board of Surgery and F.A.C.S. In practice of general surgery in Raleigh since 1952. Married, with five children (Carole, 13; Peggy, 10; George, Jr., 8; Barbara, 6; Becky, 2½).

Charles L. Putzel, Jr., 611 Broad Street, Selma, Alabama. M.D., Jefferson, 1944. Internship at Pennsylvania Hospital in Philadelphia. U. S. Navy, 1944-46. Fellowship, Ochsner Clinic, 1947-49. Certified by American Board of Internal Medicine, 1954. Associate, American College of Physicians. Practiced Internal Medicine in Selma since 1949. Married Ann Bush of New Orleans in 1946; have one son, age 2.

Ira W. Rose, Jr., Rocky Mount, N. C. M.D., Washington University, December, 1943. Internship and graded surgical residency—five years—at Union Memorial Hospital, Baltimore. Active duty with Navy on aircraft carrier, World War II; active duty—Army—Camp Rucker, Alabama, during Korean War. Doing general surgery, Rocky Mount. Married Virginia Finney of Baltimore in 1950; have two children (Linda, 5; Ira W., III, 3).

Beecher W. Sitterson, 6665 Iris Avenue, Cincinnati 13, Ohio. M.D., Harvard Medical School, 1943. Internship in Internal Medicine, Boston

City Hospital. Army, 1944-46. Assistant resident in Internal Medicine, Boston City Hospital, 1947-48. Resident, BCH, 1948-49. Research Fellow in Medicine, Western Reserve, 1949-50. Practiced internal medicine on staff of Gundersen Clinic, La Crosse, Wisconsin, 1950-52. Assistant and Associate Medical Director, Ohio National Life Insurance Company, Cincinnati, since 1952. Married Anne Murphy of Wrentham, Massachusetts, in 1949 "and lived happily ever after." Have two sons—ages 5 and 3.

Hugh P. Smith, Jr., 110 East Wilshire Avenue, Suite 404, Fullerton, California. M.D., Pennsylvania, December, 1943. Interned Stanford Service, San Francisco General Hospital. Two years in Navy attached to Marines, went to Saipan and Japan. Then to Emory for two years, one year at Pratt Hospital in Boston, then one year at University of Pennsylvania Hospital in Radiology. Got my Boards in Medicine in 1952. Practiced five years in Greenville, South Carolina, with my Dad prior to succumbing to the California bug. On January 1, 1956, I moved to California and live at 1401 Chevy Chase Drive, Anaheim; my office address is Fullerton. Am doing Internal Medicine, although out here it is nearly the same thing as General Practice. Married Sue Crigler—met her while training at Emory after the war. We have two redheaded children—Nancy, 5, and Hugh III, 3½. Where we're living now we're 3 miles from Disneyland, 20 from Hollywood, 90 from Palm Springs, and 100 from Mexico. I love it here!

John T. Stegall, 132 N. Tradd Street, Statesville, N. C. M.D., Maryland, December, 1943. Rotating internship, Medical College of Virginia Hospital. Assistant resident in surgery, Watts Hospital, Durham, N. C., 1945.

U. S. Army, 1945-47. Student, New York Polyclinic Hospital, Ob-Gyn, 1947. General practice in Statesville since 1947. Married, two children (boy and girl). Residence, 327 Oakwood Drive. Member and Deacon, First Baptist Church; President, 9th District Medical Society, 1955-56; Member, Exchange Club; Director, Chamber of Commerce.

Robert E. Sumner, 9059 Oakland Avenue, Rock Hill, South Carolina. Practicing Internal Medicine in Rock Hill. Married, 3 children.

R. Bertram Williams, Jr., 308 North 3rd Street, Wilmington, N. C. M.D., Vanderbilt, 1943. Surgical internship, Vanderbilt Hospital. Duty with U. S. Navy. Surgical residency, Vanderbilt Hospital, 1946-50. In 1950, recalled to Navy during the Korean War. Practice of surgery in Wilmington since 1951. Certified by American Board of Surgery. Married, and have two children.

CLASS OF MARCH, 1943

John R. Chambliss, Rocky Mount, N. C. M.D., Harvard, 1944. Had training in internal medicine at Boston City Hospital and at Lakeside Hospital in Cleveland. Now doing internal medicine in a group set-up in Rocky Mount. Two Army hitches. Still single.

David Citron, Doctors Building, Charlotte, N. C. M.D., Washington University, 1944. Internship, Assistant Residency and Residency in Medicine at Barnes Hospital, St. Louis. In U. S. Public Health Service, 1946-1952, stationed at PHS hospitals in St. Louis and Boston. Practicing internal medicine in Charlotte since 1952. In February 1956 became member of new five-man group, The Charlotte Medical Clinic; another member is Ray Wheeler, '41. Married, and have three children.

James R. Collett, Morganton, N. C. M.D., Harvard, 1944. Interned at Medical College of Virginia Hospital. Army for 19 months. Residency training at Bellevue Hospital, New York—one year chest diseases, two years internal medicine, one year pathology. In Air Force for six months in 1953; spent four in Weisbaden, Germany. Since then have taken and passed Internal Medicine Boards and have been in practice in Morganton. To be married to Miss Nancy Thornwell Bernhardt of Lenoir, N. C., on April 14th.

Brice T. Dickson, Jr., 1418 York Road Gastonia, N. C. M.D., Jefferson, 1944. Interned, Presbyterian Hospital in Philadelphia. Medical Officer, U. S. Army, two years, mostly in China. Nine months in Pediatrics at University of Pennsylvania Graduate Medical School; residency in Pediatrics for one year, University of Pennsylvania Graduate Hospital. Practiced pediatrics in Gastonia for five years. Six months residency in internal medicine, D. C. General Hospital, Washington. Now doing practice in pediatrics and internal medicine. Married, one boy and one girl.

James Greenwood, 521 Doctors Building, Charlotte, N. C. M.D., Pennsylvania, 1944. Interned, U. S.

Navy Hospital, Philadelphia, and then had active duty in the Pacific; discharged from Navy in April of 1946. Spent one year as Chief Resident, Mercy Hospital, Charlotte; then started private practice doing general medicine. Recalled to Navy in November, 1952; spent 18 months on Guam. Since May 1954 I have been doing private practice in Charlotte. Married Eileen Stephens in 1943; have 4 children (Topsy, 11; Jimmy, 8; Patsy and Polly, 5½ twins).

William N. Hubbard, Jr., West Nyack, New York. M.D., New York University, 1944. On house staff of Bellevue Hospital, New York, 1944-50. Since 1950 have been on full-time faculty of New York University College of Medicine; present position is Assistant Professor of Medicine and Associate Dean of NYU; Associate Secretary of the Association of American Medical Colleges. Married charge nurse on ward where internship began. Have three children (Billy, Michael, and Mary Emma). West Nyack is a short thirty miles from the School.

We regret that due to limited space in this issue a number of replies could not be published. The next issue of the Bulletin will carry the rest of the replies from these three classes.

Van Wyk Named Markle Scholar

Dr. Judson J. Van Wyk, Assistant Professor of Pediatrics, has recently been named a John and Mary R. Markle Scholar in Medical Science. This award of \$30,000 will be given at the rate of \$6000 annually for five years. Dr. Van Wyk received an A. B. degree from Hope College, Holland, Michigan in 1943, and his M.D. at

Johns Hopkins in 1948. His prior experience includes: Graduate Fellow in Biochemistry, St. Louis University, 1943-1944; House officer in pediatrics, Johns Hopkins Hospital, 1948-50; Resident in pediatrics, Cincinnati Childrens Hospital, 1950-51; Investigator, National Heart Institute, U. S. Public Health Service, Bethesda, Maryland, 1951-53; and Fellow in pediatric Endocrinology, Johns Hopkins University, 1953-55. Dr. Van Wyk joined the U.N.C. Medical School faculty in May, 1955.

Editorial

The University of North Carolina School of Medicine class of 1956 has, in this issue of *The Bulletin*, taken occasion to highlight some of its experiences during the past four years. In doing so, the class has made a precedent we hope other classes will choose to follow.

Increasingly, *The Bulletin* is widening its sphere of coverage in affairs that relate to alumni, friends, faculty, house staff and—now—the students of the Medical School. This is good because the student and the relation to him in the university of the faculty, the laboratories, and the clinics is our principal concern.

The class of 1956 is a good class. Their standards are high; they have intelligence, spirit, and vigor. Among their number are students who have spurred and stimulated their teachers and who give promise of becoming better physicians and better citizens in this world than their teachers. This prospect is gratifying.

The class of 1956 has paid tribute to two house officers in Memorial Hospital for the gentlemanly, unselfish, and scholarly way they have, by precept and example, contributed to their education. It is pleasant to see them singled out; they deserve the tribute. Unconsciously, this show of affection calls attention to the close interrelation between student and teacher at all levels of graduate medical education. A teacher is one with knowledge to share whether he be a sophomore informing a freshman, a resident helping an intern, or a professor advising a junior associate.

Only those schools approach excellence whose faculty and student body share knowledge with honesty and humility.

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